Savanna capacity profile

A review of indicators and well-being in Australian savanna communities

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Introduction

This paper is designed to provide a contextual analysis of several variables that indicate a contribution to community capacity of the savannas region of northern Australia. There are two main purposes for this review. Firstly, the paper attempts to identify a set of indicators of community capacity/community well-being that can be applied to savanna communities. Secondly, the paper is designed to identify places within the savanna region where the context allows for high and increasing community capacity or where community capacity is indicated to be low.

The measures to be used here will be primarily statistical data available from the Australian Bureau of Statistics (ABS). The ultimate purpose of identifying these places is to determine the contribution of vocational education and training (VET) in communities with low or high community capacity—though this is not an expected outcome of this paper.

The paper will first briefly review relevant literature relating to community capacity, measures of well-being, sustainable community development and VET as it relates to these issues. The literature relating to specific indicators of well-being will be explored in detail within each section. The choice of a particular indicator of capacity is based on support within literature, accessibility within existing data sources and its applicability to communities in general. The diversity of communities and regions within northern Australia means that it is possible that there are more appropriate indicators that better reflect the context of a particular community. However the indicators used here should enable comparisons to be made with other rural and regional communities within Australia as a whole, thereby extending the application of this work.

Following on from the literature review, the profile will examine in some detail indicators as they apply to the savanna region. The indicators are generally examined in the context of the region as a whole and consider influencing factors such as remoteness, population change, Indigenous population and other specific factors relevant to an indicator. Each indicator is used to identify urban centres and localities with high or low capacity.

Following the review of indicators the paper concludes with a synthesis of findings. This is designed to draw together the detail of each previous section and make some general observations and assessments of capacity and well-being of communities in the savanna region.

The scope of this paper is limited to the identification of indicators of capacity and the identification of communities on the basis of these indicators within the savanna region of Australia. This paper does not aim to find reasons or causal relationships between indicators and capacity. Nor does it attempt to discover the relationship between VET and community capacity. Generally, this analysis is limited to the savanna region and does not attempt to compare measures with national or international indicators, though this may be the subject of future research.

Literature

This section establishes the broad framework for the savanna capacity profile. The intersecting nature of communities, capacity, social capital, well-being, sustainability and partnerships will be briefly explored. The relevance of vocational education and training to these concepts will also be reviewed.

Indicators of community capacity

There are a number of intersecting concepts that can be considered when community capacity and its measurement are discussed. The distinctions between social capital, community capacity, well-being and sustainability are often blurred and some terms are used interchangeably. The following discussion will establish the basis for understanding for each of these terms as they are used in this paper.

Communities

Communities can be variously described as geographical places, such as towns or suburbs; groups of like-minded people—communities of interest—such as churches, clubs and other social or sporting organisations; or groups of people connected by shared culture such as a migrant community or an Aboriginal community (Balatti & Falk 2000). While these descriptions are accepted, for the purpose of this paper, the focus will be on community as a geographical place where people live. The reason for this choice is that much of the data from ABS used for analysis is based around the location of individuals' residence.

Social capital and community capacity

The concept of social capital has been developed over recent years to the point where it is now widely used, not just in research but in policy development and implementation (Rossing Feldmen & Assaf 1999). Development of the concept incubated for a number of years prior to Putnam's (1993) discussion of social capital (Bordieu 1991, Coleman 1988, 1990), but his definition in terms of trust, norms and networks for mutual benefit remains well supported throughout literature (Falk & Kilpatrick 1999, OECD 2001a; Woolcock 1998), despite contrary views that suggest that social capital can be considered a cost and having a 'down side' (Portes & Landholt 1996). That social capital is a precursor to social and economic development or sustainability (Falk & Guenther 2000, Knack & Keefer 1997; Woolcock 1999), is now widely accepted and has led to many examples of programs that are designed to enhance the well-being of communities and regions (Department of Victorian Communities 2003; NSW Government 2003; Tasmania Together 2002). Similarly, many programs both in Australia and internationally, have been designed or reviewed with the intent that social capital might be built in a community or region (Gugerty & Kremer 2000; Falk & Kilpatrick 1999; Krishna & Uphoff 1999; NRE 2001). Much work has been carried out in recent years to determine effective measures or indicators of social capital (Grootaert & van Bastelaer 2001; Knack & Keefer 1997; World Bank 1998).

Community capacity can be broadly defined in terms of the ability of a community to manage change and sustain community led development (NRE 2001). It is suggested here that there is a link between social capital, community capacity and social well-

being such that social capital has a capacity building role (Topolsky 1997) and that there is a dynamic relationship between social well-being and social capital and other

forms of capital such as human and natural (ABS 2002e; Falk 2001; OECD 2001a:12).

Measures of well-being

Indicators of social capital ought therefore to be included in any attempt to gauge levels of social well-being and therefore community capacity (ABS 2002e:7). Many attempts over recent years have been made to quantify social well-being in terms of a range of measures that describe more than just economic measures of income and wealth. These have included a set of social indicators developed by the OECD (1973, 1982) which have been used as a basis for several studies that have gauged the impact of education and literacy on social well-being (CRLRA 2000, 2001a, 2001b; Falk, Golding & Balatti 2000, Falk & Guenther 2002). More recently the validity of these measures have been confirmed with an update of the OECD indicators with some regroupings (OECD 2001a, 2001c) and the inclusion of a similar set of well-being indicators prepared by the ABS (2001c). All these indicators can be broadly described under headings of: health; education and learning; employment and quality of working life; time and leisure; command over goods and services; physical environment; social environment and personal safety. They are particularly useful because they encompass variables that relate to social, human, environmental and economic capital and therefore provide a useful basis for determining community capacity.

This profile of community capacity uses existing publicly available data primarily from the ABS and mostly from Census information to quantify variables that can be related directly and indirectly to the eight indicator bands described above. The OECD bands and the concordance with the ABS (2001c) bands are shown in Table 1 below, along with some measures available from ABS (2002b, 2003a) and other potential data sources. ABS (2001c) also adds population as a separate measure of well-being. Population issues are complex and while they will be considered in the profile under the heading of social environment, it is recognised that they impact broadly across a range of well-being issues. It is acknowledged that this framework of measurement is incomplete and there are many potential variables and data sources that could be applied to this study. The details of data sources, indicators and measures are considered under appropriate headings in the profile (see page 15).

Table 1. Framework for measuring wellbeing with possible measures and sources

OECD (1982) bands	ABS (2001c) bands	ABS (2002b, 2003a) Census variables	Other possible data sources[1]
Health	Health		Health surveys (e.g. ABS 2002f, 2002g)
Education and learning	Education and training	Educational attendance Qualifications	Literacy and numeracy (ABS 1997b)
Employment and quality of working life	Work	Industry of employment Unemployment rate	
Time and leisure	Culture and leisure	Immigrants and Indigenous populations	Time use survey (ABS 1998a), Tourism indicators (ABS 2002h)
Command over goods and services	Economic resources	Individual and household income, dependency ratio	
Physical environment (access and ecology)	Housing	Housing	
Social environment	Family and community	Family types and size Population, demography	Causes of death (ABS 2002a). Aged care and child care places (ABS 2003d) SEIFA (ABS 1998b)
Personal safety	Crime and justice		Crime statistics (ABS 2003e; Queensland Police 2003; Western Australian Police 2002)

Sustainability

Sustainable development is widely recognised to incorporate economic, environmental and social elements, which intersect and interact with each other. A useful definition is offered by the OECD (2001b:2):

> Sustainable development can be defined in technical terms as a development path along which the maximisation of human well-being for today's generations does not lead to declines in future well-being. Attaining this path requires eliminating those negative externalities that are responsible for natural resource depletion and environmental degradation. It also requires securing those public goods that are essential for economic development to last, such as those provided by well-functioning ecosystems, a healthy environment and a cohesive society.

While the OECD considers sustainability in terms of international and national issues, the same principles apply at a local and regional level. For example the Western Australian *Sustainability Framework* (Government of Western Australian 2002:24), which includes 'communities' within its framework, emphasises the triple bottom line:

> …sustainability is defined as meeting the needs of current and future generations through simultaneous environmental, social, and economic improvement.

[1] Some of these data sources are only available at a state/territory or regional level and therefore may be of limited value in determining capacity for individual communities.

If then, the concept of sustainable development is integrated into an understanding of social well-being, measurement of social well-being ought to reflect the underpinning principles of sustainability. It should not come as a surprise that the social indicators described under the bands shown in Table 1 indeed do reflect a range of social, economic and environmental factors.

Partnerships

The building of community capacity invariably involves the formation of partnerships between individuals, community groups, government organisations and commercial interests. There are several reasons why partnerships develop. The specific motivations for initiating partnerships is related to its context but clearly the stimulus for any form of collaboration must be the inability of individuals or stakeholders to achieve desired outcomes in their own. Shimeld (2001) commenting on community partnerships says that such collaboration:

> …develops around an issue of common interest that typically is beyond the ability of one person or existing agency to address. The stimulus to action may have come from within or outside the community with motivation for engagement stemming from altruism to enlightened self-interest.

The breadth of purposes of partnerships internationally is summarised in recent policy brief to the Organisation for Economic Cooperation and Development (OECD) about the role of civil society in public policy (OECD 2001d).

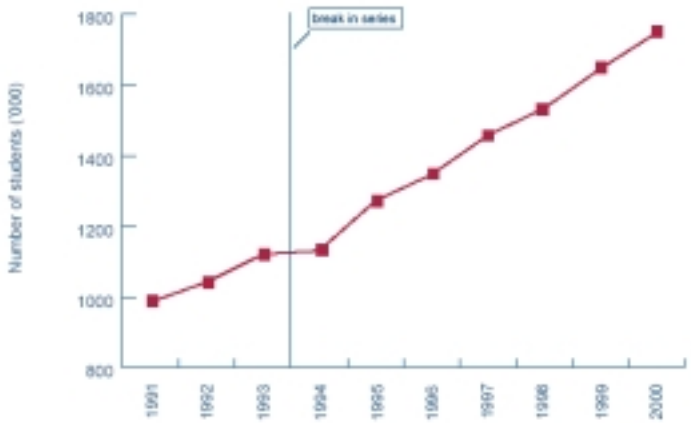
> Throughout OECD countries, partnerships are being established to tackle issues of economic development, employment, social cohesion and the quality of life. Through partnerships, civil society, enterprises and government at different levels work together to design area-based strategies, adapt policies to local conditions and take initiatives consistent with shared priorities.

The brief goes on to list a number of examples where partnerships have been used in regions to address issues such as corruption, environment policy, biotechnology, food safety and agriculture. It is clear that economic development or improved competitiveness is not the only reason for partnerships forming, though it is more likely to be an outcome if it is underpinned by a framework that builds capacity. Allen (1999) contends that human capacity, leadership, organisation capacity and community capacity are necessary prerequisites for economic outcomes.

Vocational education and training (VET)

Vocational education and training has traditionally focussed on vocational outcomes and the application of Government policy has strongly supported this focus (ANTA 1998), and recent statistics suggest that employers are increasingly adopting VET to target workplace outcomes with expenditure on structured training up by 52% in the five years to 2002. This increase is supported by a 201% increase in Government subsidies (ABS 2003b). Figure 1 shows that during the past decade participation in VET training has increased by 77% (NCVER 2000). In 2001 there were 1 756 800 people participating in VET in Australia (NCVER 2002a).

Figure 1. Participation in vocational education and training, 1991 to 2000 (Source NCVER 2002a)



However, there are signs that policy is shifting so that VET is seen more broadly than just a tool for building industry skills. The Australian National Training Authority's (ANTA) new VET strategy for 2004-2010 includes mention of cohesive society in its mission statement (ANTA 2003:2).

> Vocational education and training builds the skills and knowledge of Australians to support internationally competitive industries and a cohesive society.

There are other indications that VET is being viewed in a somewhat more holistic framework, particularly in the area of Indigenous training and education. ANTA's (2000a) national strategy for Indigenous vocational education and training includes objectives incorporating cultural inclusivity and life-long learning, moving closer to a position advocated by Henry *et al* (1998) in *Djama and VET*. Of note is the inclusion in ANTA's (2000b) blueprint that community outcomes including "increased resources for community development including communications, business, health and justice and opportunities in the arts, sports, and recreation" are integrated into the plan.

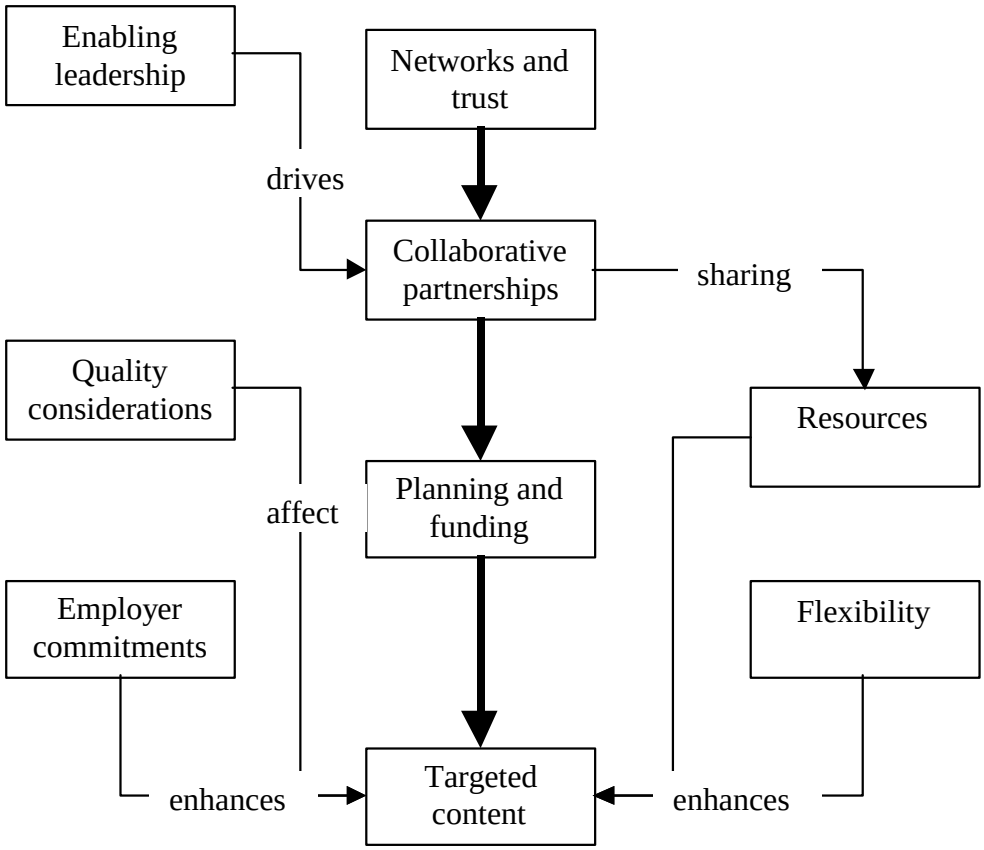
The shift in thinking about VET means that the outcomes proposed through this paper and broader research into the role of VET as an enabler of community capacity, is timely. While this paper focuses on savanna communities, the implications of the findings may well point to applications in other rural and regional communities across Australia.

VET and community capacity

In Australia, much of the research about the role of VET in building communities has come out work done by the University of Tasmania's Centre for Research and Learning in Regional Australia (CRLRA). CRLRA conducted an ANTA funded research program that investigated the role of VET in regional communities in the period 1999 to 2001 (CRLRA 2000, 2001a, 2001b).

This research concluded that the presence of social capital in a community enhances the outcomes of VET. Figure 2 summarises the way that a range of factors contribute to effective VET outcomes so that individual needs are best met. The diagram shows that networks and trust underpin effective partnerships, which in turn act as a catalyst for resource sharing and contribute to improved planning and greater access to funding to meet local needs. The importance of leadership as a driver for the process is also seen in the diagram and cannot be underestimated (Falk 2000).

Figure 2. How factors that contribute to effectiveness of VET work together (Source: CRLRA 2001b)



The research also found that VET contributed to the building of community capacity in the study sites, most notably where social capital was already present (CRLRA 2001b:144-145):

> Where VET was integrated in community development projects reported in case studies, collaboration and partnerships were always present. Within the scope of this research it can therefore be concluded that VET will be an effective vehicle for community change where collaborative partnerships and networks are present.

Other research has also highlighted the importance of VET's role in building community capacity. For example, a study of five rural school-community partnerships (Kilpatrick *et al* 2001) found that:

> …the development of VET-in-schools programs in rural communities, and the community-wide benefits that flow from such programs, represent an important vehicle for building community capacity.

The connection between learning and community building is made repeatedly in literature (Falk 2001; Falk, Golding & Balatti 2000; Kilpatrick, Bell & Kilpatrick 2000). The evidence of numerous case studies suggests that learning, which includes VET, contributes significantly to the well-being of a rural community. VET can take many forms and should not be seen only as the task of an individual to acquire skills and knowledge. Learning improves an individual's skills and knowledge, but it also contributes to their self-image and allows them to better participate in the community

as a whole. Learning contributes to individuals' sense of belonging and better places them in a position to add to the combined resources of the community such that the shared sense of well-being across a range of measures (see Table 1) is improved.

VET and partnerships

The contribution of partnerships and collaboration in effective VET delivery is shown in Figure 2. Partnerships in the context of VET can take several forms (Kilpatrick, Fulton & Bell 2001). These can be summarised as: Industry-provider partnerships; client-provider partnerships; community-provider partnerships; broker-client-provider partnerships; researcher-industry-provider partnerships; government-industry-provider partnerships and provider-provider partnerships usually with government

The breadth of partnerships has evolved as the VET sector in Australia has developed and expanded over recent years. A 1995 report for the National Board of Employment, Education and Training (NBEET 1995) considered the possibility of collaboration within the VET sector, but was effectively limited to provider-provider partnerships. Recognising the changing context of post-secondary education, Sommerlad, Duke and McDonald (1998) envisaged collaboration more broadly to include teaching, research and development, professional development, consultancy, promotion and marketing and the sharing of resources. The significance of industry linkages within this framework of understanding was also noted.

More recently the importance of community involvement in partnerships has been highlighted. While Kearns *et al* (1996) identified the presence of 'community coalitions' as a model for partnerships the concept of community involvement as a vehicle for effective development of the VET sector is not considered in policy documents until later. The idea that VET partnerships can contribute to community capacity is only just being incorporated in public policy. The shift in emphasis to community outcomes as well as individual and industry outcomes is notable in more recent ANTA publications (compare ANTA 1998 with ANTA 2000a, 2000b and ANTA 2003).

Partnerships between VET stakeholders and the community may be more significant in rural areas than urban areas. A recent study of over 100 VET partnerships (Kilpatrick & Guenther 2003) found that:

> While urban partnerships were most frequently concerned with industry development, rural partnerships were most frequently concerned with regional development through education and training. The differences are also reflected in outcomes where rural partnerships are most likely to report community development outcomes while urban partnerships are most likely to report enterprise outcomes.

This finding is particularly significant for savanna communities, most of which are small, rural and isolated. Given therefore that partnerships contribute to the effectiveness of VET outcomes and partnerships enhance community outcomes, it could be expected that higher measures of well-being should be found in communities with strong community-provider linkages. The data presented in this paper cannot determine if this is the case, but a closer examination of potential study sites may be able to verify this assertion.

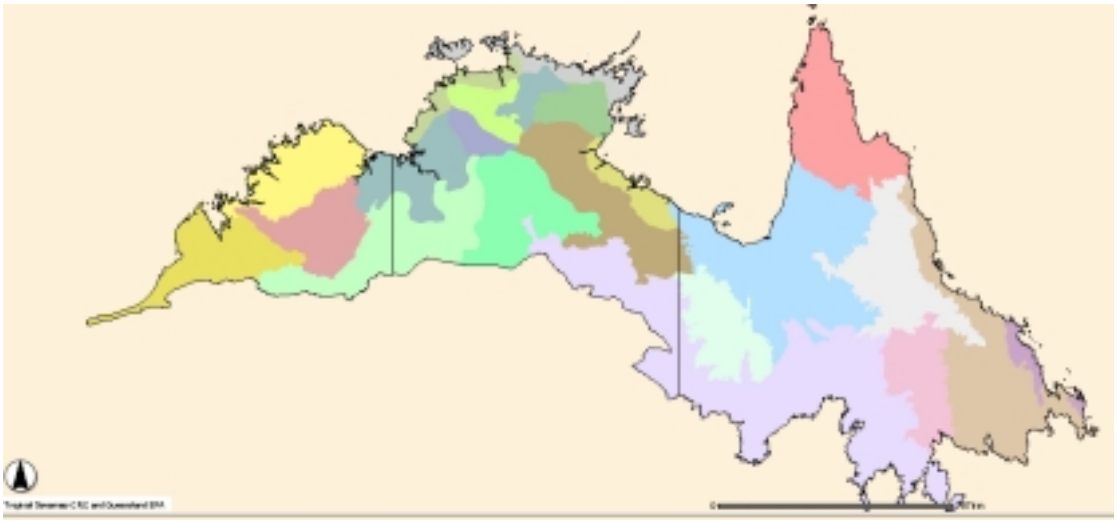
Geographic divisions

This paper uses several geographic classifications to show trends over time and across regions. The ABS Australian Standard Geographic Classification (ASGC) (ABS 2002c) hierarchy is used throughout. The main structure includes divisions according to State/Territory, Statistical Division (SD), Statistical Subdivision (SSD) and Statistical Local Area (SLA). Communities are identified in this paper according to ASGC 2001 Urban Centres/Localities (UC/Ls). Further differentiation is made according to remoteness using Accessibility/Remoteness Index of Australia (ARIA) measures as a basis (DHAC 2001).

Tropical savannas

The Tropical savannas region of is defined in Tropical Savannas Cooperative Research Centre (TS-CRC) publications as a broad region of northern Australia. The extent of the region is shown in Figure 3. Because SLAs used as a basis for statistical analysis do not line up exactly with the bio-region boundaries shown in the map, the map boundaries shown from Figure 7 onward are a best fit approximation of the extent of the region.

Figure 3. Extent of Tropical savannas in Australia showing bioregion boundaries (Source: TS-CRC 2003)



ASGC statistical areas

The main unit of geographical measurement used in this paper is the SLA. The savanna region comprises 124 SLAs in Queensland, Northern Territory and Western Australia. The full list of tropical savanna SLAs used in this paper are shown in Table 65. To differentiate between broad regions of the savanna region, this paper tabulates some results by Statistical Division (SD), which here should be taken to mean those SLAs of the SD that are included in the tropical savanna region (see for example Table 49). References are also made to state and territory classifications in this paper. In this paper, unless otherwise stated, references to a state or territory refer to the area within the state included in the tropical savanna boundary as shown in subsequent maps (see for example Figure 7).

Urban centres/localities

Urban Centres are defined according to ASGC 2001 (ABS 2002c) as population clusters with 1000 or more people. ASGC has well defined criteria for determining the extent of an urban centre and divides these into population clusters up to 20000 and those above 20000. Localities are defined as population clusters with between 200 and 999 people. By these definitions there are 129[2] urban centres and localities in the savanna regions. Table 2 shows the twenty largest urban centres of the savanna region, the largest of these being Darwin with a population of over 70000. Other major centres are distributed across the three states represented by the region and range in size from about 20000 (Palmerston and Mt Isa) down to less than 3000 (Home Hill and Cloncurry).

Table 2. Twenty largest savanna urban centres, showing intercensal population change (Source: ABS 1997a, 2002b)

Locality	State/ Territory	2001 Population	1996 Population	Population change
Darwin	NT	71347	70251	1.6%
Palmerston	NT	20570	12233	68.2%
Mount Isa	QLD	20525	21751	-5.6%
Broome	WA	15906	11368	39.9%
Yeppoon	QLD	10778	8810	22.3%
Bowen	QLD	8550	8985	-4.8%
Ayr	QLD	8515	8697	-2.1%
Mareeba	QLD	6900	6874	0.4%
Katherine	NT	6719	7979	-15.8%
Moranbah	QLD	6133	6508	-5.8%
Deeragun	QLD	5631	2314	143.3%
Kununurra	WA	5485	4884	12.3%
Humpty Doo-McMinns Lagoon	NT	5245	4798	9.3%
Blackwater	QLD	4928	5931	-16.9%
Nhulunbuy	NT	3804	3695	2.9%
Derby	WA	3688	3236	14.0%
Longreach	QLD	3673	3766	-2.5%
Howard Springs	NT	3440	3207	7.3%
Home Hill	QLD	2946	3071	-4.1%
Cloncurry	QLD	2748	2459	11.8%

Table 3 shows the 20 fastest growing urban centres and localities of the region. More than half of these are small communities with less than 1000 people. Nine of fastest growing communities are each found in Northern Territory and Queensland.

[2] The actual number of UC/Ls reviewed here is only 118. The difference is because some localities with greater than 200 population in 1996 fell below the critical level and ceased to be defined as such in 2001 while others which had populations above 200 in 2001 were below the critical population in 1996. Only those centres that could be compared intercensally are used here.

Table 3. Twenty fastest growing urban centres/localities showing intercensal change (Source: ABS 1997a, 2002b)

Locality	State/ Territory	2001 Population	1996 Population	Population change
Deeragun	QLD	5631	2314	143.3%
Kuranda	QLD	1456	666	118.6%
Daly River (L)	NT	621	349	77.9%
Palmerston	NT	20570	12233	68.2%
Gapuwiyak (L)	NT	668	447	49.4%
Doomadgee	QLD	1119	754	48.4%
Broome	WA	15906	11368	39.9%
Borroloola (L)	NT	769	551	39.6%
Bamyili (Barunga) (L)	NT	346	249	39.0%
Fitzroy Crossing	WA	1507	1147	31.4%
Ramingining (L)	NT	613	473	29.6%
Pirlangimpi (L)	NT	369	285	29.5%
Karumba	QLD	1346	1043	29.1%
Aurukun (L)	QLD	999	778	28.4%
Alligator Creek (L)	QLD	976	778	25.4%
Yirrkala (L)	NT	648	521	24.4%
Maningrida	NT	1645	1328	23.9%
Yeppoon	QLD	10778	8810	22.3%
Arcadia Bay (L)	QLD	764	638	19.7%
Boulia (L)	QLD	290	243	19.3%

Remoteness

Most of the savanna region of Northern Australian can be considered as rural, regional or remote. The impact of remoteness on the region is undeniable but in order to effectively quantify the impact an index that objectively differentiates between metropolitan, regional, rural and remote must be used. Typologies, such as those used by National Economics (NEIR 1998, NEIR/ALGA 2001) or Stimson *et al* (1999) may be helpful in defining the terms but they only partially assist with the analysis of data that pertains to these regions.

The development of the Accessibility/Remoteness Index of Australia (ARIA) was sponsored by the Federal Department of Health and Age Care (DHAC) in 1996. Remoteness was defined in order to be able to "systematically tailor services to meet the needs of Australians living in regional Australia" (DHAC 2001). The initial paper defining ARIA values across Australia, was released in 1999 (DHAC 1999) based on 1996 ASGC SLA classifications. The Index was developed to supersede the Rural, Remote and Metropolitan Areas (RRMA) classification introduced by the Department of Primary Industry and Energy in 1994, though RRMA is still widely used as a basis for research and policy implementation, particularly in the area of health (AIHW 2002). The implementation of the *Fairer Medicare* (DHAC 2003) package, for example based incentives for rural and remote general practitioners on RRMA ratings.

ARIA has since been revised to use 1999 ASGC classifications (DHAC 2001) and has been the subject of a review by ABS, which intends to further modify the ARIA definitions based on 2001 ASGC boundaries and to improve comparability with RRMA (ABS 2001a, 2001b). The new scale expands the existing 12 point scale to a 15 point scale. This framework is sometimes referred to as ARIA+. While the revisions are acknowledged, particularly in health where ARIA is most commonly

used, the 12 point scale is still the most widely used, and for this reason is also used in this paper. Descriptors and values for both ARIA and ARIA+ are shown in Table 66.

Data sources

Data used in this paper comes primarily from the Australian Bureau of Statistics. Data is taken from ABS Census Basic Community Profiles (ABS 2002b), Time Series Profiles (ABS 2003c), Expanded Community Profiles (ABS 2003a) and Indigenous Profiles (ABS 2002j) accessed using publicly available material through the ABS web site[3], CDATA96 (ABS 1997a) and the Integrated Regional Database (IRDB) (ABS 2002a). Other data sources are used selectively and are referred to where used. Maps were created using MapInfo Professional™, a mapping package used in conjunction with CDATA96™.

[3] http://www.abs.gov.au

Indicators of well-being in savanna communities

This section examines a series of indicators of well-being indicators drawn from the literature and the eight bands described in Table 1. Where possible, data will be used to show how savanna regions and communities are affected, and how the indicators relate to community capacity. Attempts will be made to show the impact of remoteness on data and where appropriate specific factors such as Indigenous status, will be used to further assess the impact of variables on community capacity.

Health

There are several measures of health that could be used to indicate well-being in a community (ABS 2002e:96-97). These include but are not limited to:

- life expectancy;
- infant mortality rate;
- age specific death rates;
- disability adjusted life;
- prevalence of specific diseases; and
- risk factor indicators (e.g. smoking rates, proportion of people overweight).

Health and well-being is related to a number of other co-dependent factors such as age, availability of services, socio-economic status, gender, remoteness and indigenous status. Some of these factors will be considered in more detail in other sections of this profile. Others need to be considered at the local or regional level and cannot be adequately covered by statistical data, especially when the geographical region is larger than the SLA level.

A number of potential data sources are available to measure and assess health issues in the population. Among these are the ABS National Health Survey with its Indigenous supplement (ABS 2002f, 2002g), which shows a comprehensive list of health measures and risk factors. These are grouped variously and reported down to state and territory levels[4]. For the purpose of this profile, which aims to consider community capacity, this level of reporting is inadequate. The Bureau of Rural Sciences (BRS 1999:84-87) reports on four health indicators: infant deaths; hospital separations (respiratory diseases); hospital separations (accidents, poisoning and violence) and hospital separations (infectious diseases). The data, reported as maps to SSD level, show that generally along all four measures, the savanna region compares poorly to metropolitan Australia and even worse compared to other rural areas of Australia, most notable south-eastern Australia including Tasmania.

Infant mortality

One measure that is available at SLA level, which will be considered here, is infant mortality which BRS (1999:84) describes as a "very good indicator of both the health status and the general socio-economic well-being of the population". Infant mortality is recorded by state and territory registrars of births, deaths and marriages and is

[4] Confidentialised Unit Record Files (CURFs) are available, but these only indicate state.

collated by ABS. Higher levels of infant mortality may be taken to indicate lower levels of community capacity, for a number of possible reasons. These may include: access to medical services, environmental factors that reduce life expectancy and social and cultural values. Table 4 compares 1999 statistics relating to infant mortality rate (IMR) for states and territories with that of the savanna region[5].

Table 4. Infant mortality rate compared 1999: Australia (Source ABS 2002a)

Region	Infant mortality rate (deaths per 1000)
New South Wales	5
Victoria	5
Queensland	6
South Australia	4
Western Australia	5
Tasmania	7
Northern Territory	12
Australian Capital Territory	5
Savanna region	11

While local data may be somewhat distorted[6], Table 5 reveals that while remoteness does not explain variations in infant mortality, Indigenous status does. It is possible that high IMR in accessible regions is due to transfer of infant patients to regional and city hospitals from more remote sites. What is clear, however, is that increasing proportions of Indigenous persons in the savanna populations are associated with higher infant mortality rates.

Table 5. Infant mortality rate 1999: remoteness by percent Indigenous in savanna populations (Source ABS 2002a)

	Percent Indigenous in SLA populations in savanna SLAs				
ARIA remoteness	0-25	25-50	50-75	75-100	Total
Accessible	10.9		0.0		10.8
Moderately accessible	9.0	10.0			9.2
Remote	7.0		22.0		8.3
Very remote	4.8	16.8	21.0	26.0	12.6
Total	9.3	14.9	18.5	26.0	10.9

[5] The IMR for the savanna region is calculated as the mean value from all SLAs in the region.

[6] IMR is the count of infant deaths per 1000 live births. The data relates to the places of birth and death, not the place from which the mother originated. Therefore, comparisons at a local level are not meaningful because they do not accurately reflect infant mortality in the community of origin.

Regional differences in IMR are shown in Table 6. Those regions with the highest infant mortality rates are in the Bathurst/Melville, Daly, East Arnhem and Ord SSDs. The lowest IMR areas are in the Mackay and Darwin SSDs.

Table 6. Regional infant mortality rates (Source ABS 2002a)

SSD	State	Infant Mortality Rate[7] (x1000)
Darwin City (SSD)	NT	6
Palmerston-East Arm (SSD)	NT	7
Darwin Rural Areas (SSD)	NT	8
Bathurst-Melville (SSD)	NT	21
Alligator (SSD)	NT	12
Daly (SSD)	NT	22
East Arnhem (SSD)	NT	27
Lower Top End NT (SSD)	NT	19
Barkly (SSD)	NT	20
Fitzroy SD Bal (SSD)	QLD	Not available
Central West (SSD)	QLD	Not available
Mackay SD Bal (SSD)	QLD	6
Townsville City Part A (SSD)	QLD	9
Thuringowa City Part A (SSD)	QLD	9
Northern SD Bal (SSD)	QLD	12
Far North SD Bal (SSD)	QLD	8
North West (SSD)	QLD	11
Ord (SSD)	WA	22
Fitzroy (SSD)	WA	14

Self-assessed health

If it is true that patients are transferred to more accessible locations then a large proportion of the IMR for accessible regions should be added back to the remote and very remote regions. This is supported by National Health Survey data (ABS 2002g), which shows that poor health is associated with both remoteness and Indigenous status (see Table 7).

The National Health Survey (ABS 2002g) reported that 52% of all Australians reported excellent or very good health. However, only 36% of Indigenous people in non-remote and 28% in remote areas, reported the same level of health. While these data do not point to specific communities it would be reasonable to deduce that remote Indigenous communities in the savanna region are likely to have lower health capacity than non-Indigenous communities in accessible regions.

[7] The infant mortality rate is defined as the number of deaths of children under one year of age in a calendar year per 1,000 live births in the same calendar year.

Table 7. Self-assessed health status of Indigenous and non-Indigenous persons in Australia showing remote and non-remote Indigenous results (Source ABS 2002g)

Self-assessed health status	Indigenous %			Non-Indigenous %	All persons %
	Remote	Non-remote	All	All	
Excellent/very good	28	36	34	52	52
Good	43	28	32	30	30
Fair/poor	28	35	34	18	18

VET and health

In terms of the impact of VET on these indicators of community capacity, it would be interesting to know to what extent factors such as literacy levels, available health and education infrastructure, school retention rates and provision of appropriate VET programs have on health, both in remote and more accessible communities.

Education and learning

The relationship between education/learning and social well-being is well supported by both a theoretical framework and empirical research. Within the context of social well-being, OECD (2001a) places education as a component of human capital, alongside social and economic capital. ABS (2001c:125) supports the view that levels of education are related to social capability and social well-being.

> The level of education attained by a particular population group is a crucial indicator of the ability of that group to meet the expectations of industry and the labour market. It can also indicate the success or otherwise of government initiatives to improve educational outcomes. It can be an indicator of the social capability of a population group, and their socioeconomic status, and may explain low or high levels of wellbeing in the other areas of social concern.

A number of education indicators will be considered in this section, which will be used to determine the relative contribution of education and training to the capacity of communities of the savanna region.

Within the scope of this profile, it is not possible to cover all the possible or available sources of data. For example, literacy and numeracy levels, which fit under this heading (see Table 1), are not considered here because the data available is accessible only down to state level. Further, it is acknowledged that there is scope for additional analysis based on time series data that would show trends over a period of time. This section will focus on key measures of qualifications, attendance and the field of study for those with qualifications. Gender differences will be considered in some cases, and data at the urban centre/locality level will be reviewed to assess the educational capacity of individual communities—as one component of the well-being of communities.

Education and qualifications

Table 8 shows the impact of remoteness (determined by ARIA 1999) on attendance at institutions. Attendance at secondary schools—and to a greater extent, universities—is affected by remoteness. While TAFE attendance tends to decline with remoteness, the decline is not as great as the differential between accessible and very remote attendance at universities or secondary institutions.

Table 8. Attendance at educational institutions as a percentage of total population in savanna SLAs by ARIA designation (Source: ABS 2002b)

	Primary	Secondary	TAFE	Universities
Accessible	10.1%	6.2%	1.8%	4.9%
Moderately accessible	10.3%	6.5%	1.6%	1.3%
Remote	10.5%	5.2%	1.7%	1.5%
Very remote	10.1%	3.6%	1.4%	1.2%
Total	10.2%	5.5%	1.7%	3.1%

State/territory comparisons are shown in Table 9. Of particular note is the Western Australian data, which is (with the exception of the TAFE figures) lower than the other two jurisdictions. However, this is largely explained by the absence of large urban centres that are included in Northern Territory and Queensland (in particular Darwin and Townsville). The lower primary school attendance figure for Western Australia are explained by the age profile (see Table 55), which shows fewer people in the 5-14 age group compared to the Northern Territory and Queensland.

Table 9. Attendance at educational institutions as a percentage of total population in savanna SLAs by state/territory (Source: ABS 2002b)

State	Primary	Secondary	TAFE	Universities
QLD	10.2%	6.0%	1.8%	3.1%
WA	8.9%	3.2%	1.6%	1.3%
NT	10.6%	5.0%	1.4%	3.7%
Total	10.2%	5.5%	1.7%	3.1%

Table 10 shows attendance at primary and secondary schools as a proportion of the school aged population by ARIA remoteness designation and state. The table therefore shows the way that attendance is affected by remoteness within each state. As an indicator of community capacity, attendance at school underpins the ability of a community to contribute to the needs of both the community and the broader labour market. Successful completion of compulsory completion also affects the capacity of individuals to participation in higher education and limits the extent to which those individuals can participate in higher levels of VET.

Higher levels of attendance at schools, while affected by a range of factors including the availability of infrastructure, would suggest higher levels of community capacity. The data shown suggests that as a whole, attendance at primary and high schools is unaffected by remoteness up to a remote classification. Those in remote areas are then less likely to attend, and this most notable in the Northern Territory where the difference between accessible and very remote attendance is greatest. Interstate comparisons are difficult to assess for this measure because of different administrative structures, which for example affect starting age at primary school.

Table 10. Attendance at primary and secondary schools as a proportion of those aged 5 to 17 by state and ARIA remoteness designation (Source ABS 2002b)

Remoteness	QLD	WA	NT	Total
Accessible	82.4%		81.6%	82.0%
Moderately accessible	82.6%		70.6%	80.0%
Remote	82.5%		76.5%	80.5%
Very remote	73.5%	71.0%	63.5%	70.5%
All Savanna SLAs	79.6%	71.0%	77.8%	78.6%

Given the data in Table 10, it is most likely that communities with the lowest capacity will be in the Northern Territory or in very remote areas. Those with the highest capacity could be most likely to be found in accessible areas of Queensland. Table 11 confirms the first suggestion. All but two of the 10 lowest attendance communities are in 'very remote' ARIA classifications. Half of these are in the Northern Territory. Table 12 confirms the second suggestion—all the 10 highest attendance communities are in Queensland and seven of the these are in localities within SLAs that are considered to be Accessible or Moderately Accessible. However, Table 13 shows that some remote localities do have relatively high levels of school attendance. While most of these are predominantly non-Indigenous communities, Yirrkala (L), Numbulwar (L) and Kowanyama are predominantly Indigenous communities.

Table 11. Savanna communities with low levels of primary and secondary school attendance (Source: ABS 2002b)

Locality	State	Population 2001	ARIA value	Percent attending primary and secondary school[8]
Lockhart River (L)	QLD	454	10.82	3.1%
Minjilang (L)	NT	204	10.4	5.6%
Galiwinku	NT	1463	11.88	40.3%
Looma (L)	WA	287	11.82	46.7%
Umbakumba (L)	NT	372	12	47.2%
Cungulla (L)	QLD	203	3.78	48.5%
Ngukurr (L)	NT	933	11.86	49.3%
Kalumburu (L)	WA	339	12	49.5%
Belyuen (L)	NT	214	5.27	50.0%
Croydon (L)	QLD	224	11.33	52.3%

[8] Percentage based on the attendance at primary and secondary schools and the number of persons aged 5 to 17

Table 12. Savanna communities with high levels of primary and secondary school attendance (Source: ABS 2002b)

Locality	State	Population 2001	ARIA value	Percent attending primary and secondary school[9]
Giru (L)	QLD	379	4.66	98.4%
Arcadia Bay (L)	QLD	764	5.44	97.9%
Picnic Bay (L)	QLD	577	5.44	95.6%
Balgal Beach (L)	QLD	641	3.79	95.3%
Alligator Creek (L)	QLD	976	3.78	93.7%
Georgetown (L)	QLD	318	10.29	92.2%
Pallarenda (L)	QLD	882	3.17	91.5%
Bluff (L)	QLD	317	4.44	91.3%
Tieri	QLD	1637	6.32	90.3%
Collinsville	QLD	2013	6.22	90.0%

Table 13. Localities with highest levels of primary and secondary school attendance that are considered remote by ARIA designation (Source: ABS 2002b)

Locality	State	Population 2001	ARIA value	Percent attending primary and secondary school[10]
Georgetown (L)	QLD	318	10.29	92.2%
Tieri	QLD	1637	6.32	90.3%
Collinsville	QLD	2013	6.22	90.0%
Alpha (L)	QLD	367	9.56	88.6%
Capella (L)	QLD	760	6.32	88.4%
Yirrkala (L)	NT	648	11.88	87.7%
Numbulwar (L)	NT	717	11.88	87.6%
Umagico (L)	QLD	253	12	87.3%
Nhulunbuy	NT	3804	11.88	86.6%
Kowanyama (L)	QLD	891	11.51	86.2%

[9] Percentage based on the attendance at primary and secondary schools and the number of persons aged 5 to 17

[10] Percentage based on the attendance at primary and secondary schools and the number of persons aged 5 to 17

Figure 4 shows a state/territory comparison of qualifications obtained, according to census data for SLAs in the savanna regions of Queensland, Northern Territory and Western Australia. A few observations can be made from this. Generally, qualification levels in the Northern Territory are higher than for the two states. The one notable exception is Certificate level qualifications, where males in the Northern Territory lag behind the two states. Another observation is that females tend to have a greater proportion of qualifications at all levels, except at Certificate level, for which males dominate in the order of three to one. This has probably more to do with the historical patterns of attendance at TAFE institutions than it does with current attendance patterns and trends which show an increasing proportion of females than males attending TAFE institutions (ABS 2003c). Analysis of time series census data shows that in the Northern Territory and Queensland there is a trend of increasing part time attendance among females, contrary to national data, which shows that part-time attendance, as a proportion of all attendance, among females has remained static in the ten years to 2001.

Figure 4. Qualifications by gender and state for savanna SLAs (Source ABS 2002b)

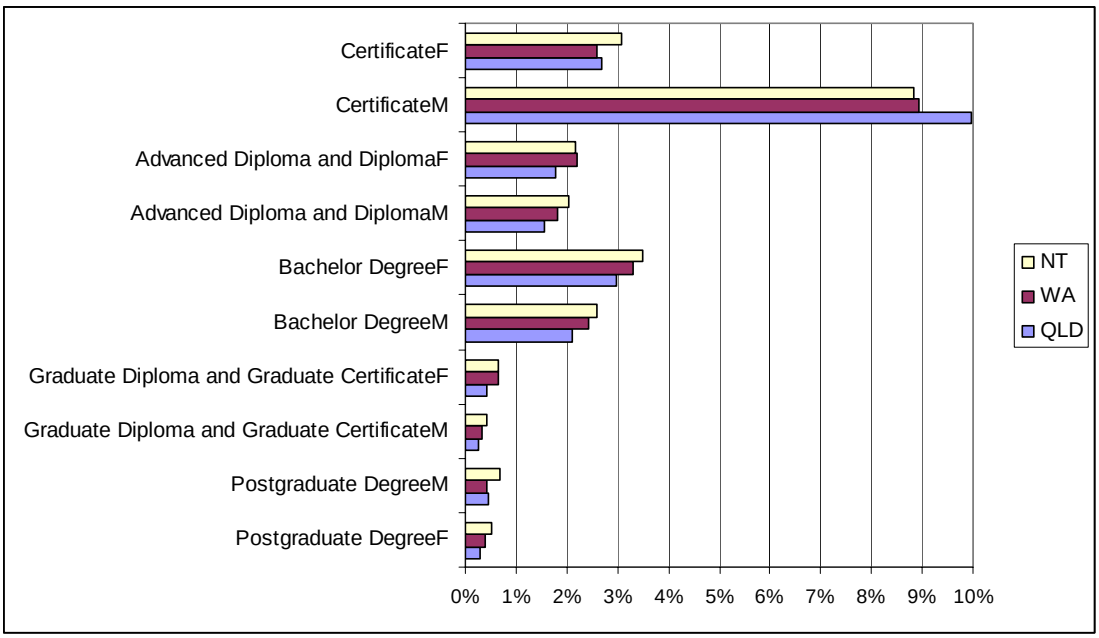
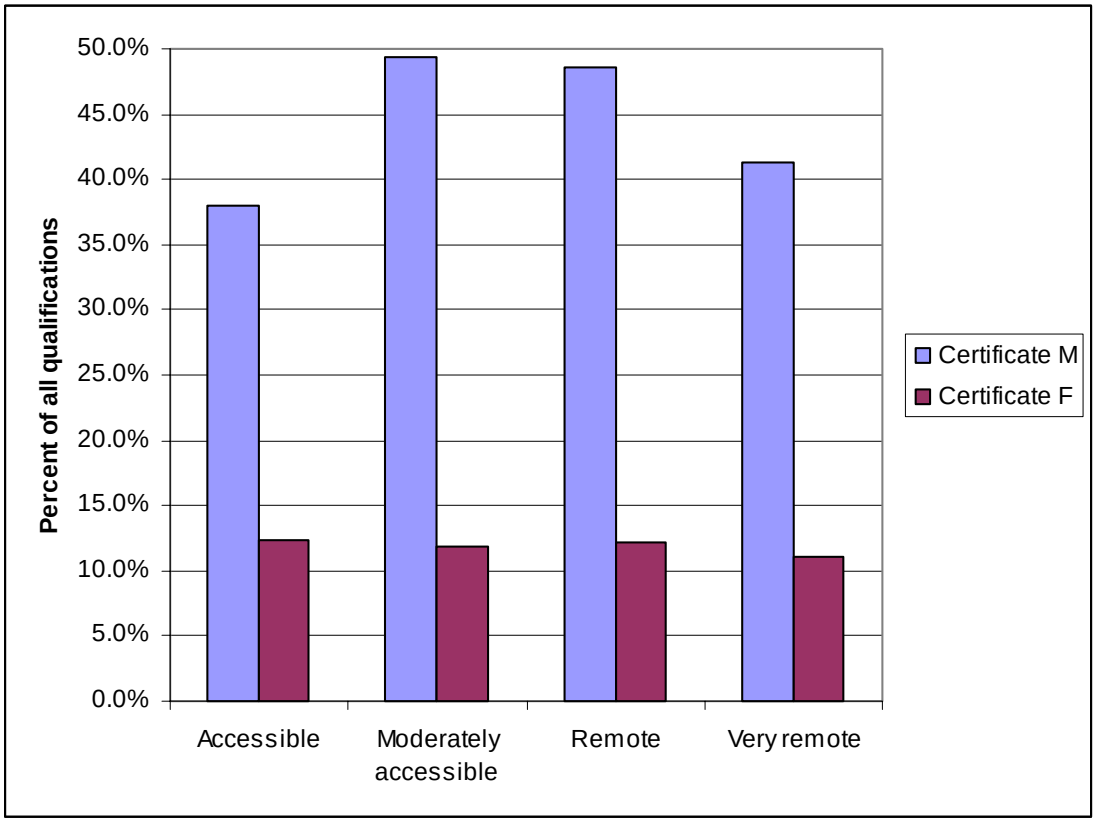


Figure 5 breaks down the certificate data into remoteness areas and shows the significance of certificate qualifications particularly in moderately accessible and remote areas. More than 60% of qualifications held in these areas are certificate qualifications. Nationally, about 45% of all stated qualifications held are certificate qualifications (ABS 2003a). These data alone suggest that VET is very significant for communities in the savanna region.

Figure 5. Certificate qualifications by gender and remoteness for savanna SLAs (Source ABS 2002b)



An indication of the capacity of a community in terms of education and learning is given by the level of post-school qualifications held in the community. Using the urban centre/locality data provided by ABS (2002b), savanna communities with higher capacity may be identified. The communities with the lowest and highest levels of educational qualifications are shown in Table 14 and Table 15, respectively. The 'low capacity' communities are predominantly small with less than 1000 people and a review of the Indigenous status of these communities reveals that on average, 93% are either Aboriginal or Torres Strait Islanders. All but one of the communities listed is considered to be remote. Belyuen is a small community 20km south-west of Darwin across the harbour.

Table 14. Savanna localities with lowest levels of educational qualifications (Source: ABS 2002b)

Locality name	State	2001 population	ARIA	Percent graduate diploma	Percent with bachelor	Percent with diplomas /advanced	Percent with certificate	Total post school qualifications
Looma (L)	WA	287	11.82	0.0%	0.0%	0.0%	0.0%	0.0%
Belyuen (L)	NT	214	5.27	0.0%	1.4%	0.0%	0.0%	1.4%
Minjilang (L)	NT	204	10.4	0.0%	0.0%	0.0%	1.5%	1.5%
Bardi (One Arm Point) (L)	WA	310	10.75	0.0%	1.0%	0.0%	1.0%	1.9%
Lajamanu (L)	NT	705	11.51	0.0%	0.6%	0.4%	0.7%	2.1%
Angurugu (L)	NT	758	12	0.0%	0.8%	0.4%	1.1%	2.6%
Warruwi (L)	NT	331	10.4	0.0%	0.0%	1.8%	0.9%	2.7%
Bamyili (Barunga) (L)	NT	346	9.79	0.0%	2.0%	0.0%	0.9%	2.9%
Umbakumba (L)	NT	372	12	0.0%	0.0%	0.8%	2.2%	3.0%
Kowanyama (L)	QLD	891	11.51	0.0%	1.1%	0.3%	1.5%	3.3%

Of the communities with high levels of educational qualifications, there are a few 'types'. There are several remote communities (such as Nhulunbuy, Karumba and Alyangula) . These are all associated with mining either directly or indirectly. Others are more accessible, such as Darwin, Kuranda and Pallarenda, but they are not all large communities. Another major grouping of these communities could be considered to be 'lifestyle' based, such as Kuranda, Nelly Bay and Pallarenda. The proportion of Indigenous persons in the population of these communities is less than 15%, with an average of 8.1% across all of them. Occupations will be examined later in more detail, but a quick look at the occupational profile of the communities reveals that the higher capacity communities tend to have high proportions of professionals, while the low capacity communities tend to have very high proportions of labourers and associated workers (see Table 26 and Table 27).

Table 15. Savanna localities with highest levels of educational qualifications (Source: ABS 2002b)

Locality name	State	2001 population	ARIA	Percent graduate diploma	Percent with bachelor	Percent with diplomas /advanced	Percent with certificate	Total post school qualifications
Pallarenda (L)	QLD	882	3.17	1.9%	13.7%	5.4%	12.4%	36.8%
Alyangula (L)	NT	972	12	1.2%	7.1%	5.7%	19.4%	34.7%
Alligator Creek (L)	QLD	976	3.78	0.6%	8.3%	4.5%	16.6%	32.6%
Nhulunbuy	NT	3804	11.88	1.1%	6.7%	5.0%	18.1%	32.4%
Jabiru	NT	1775	9.06	1.7%	7.5%	5.0%	14.5%	30.5%
Karumba	QLD	1346	11.51	0.6%	3.3%	5.6%	20.7%	30.5%
Kuranda	QLD	1456	7.93	1.2%	7.2%	6.2%	13.9%	30.1%
Darwin	NT	71347	3.0	1.5%	8.8%	5.3%	12.6%	30.1%
Nelly Bay	QLD	1311	5.44	1.7%	7.9%	4.2%	13.2%	29.4%
Howard Springs	NT	3440	3.96	0.9%	5.3%	5.2%	16.9%	29.2%

Field of study

Field of study is important to indicators of capacity in that it can be used to determine whether the skills held by individuals in a community match the labour force requirements of industries, particularly over a longer period of time. It is possible to follow trends in this variable, using census data, and to compare it with current field of study data collected by the National Centre for Vocational Education Research (NCVER)[11].

Table 16 shows the fields of study of qualified people over the age of 15, both in savanna SLAs and Australia. A few observations can be made from this table. First, the proportion of those with engineering and related qualifications is much greater in savanna SLAs than across Australia, and second, this field of study is overwhelmingly dominated by males, more so in the savanna region than in Australia. Third, the ratio of male qualifications to female qualifications in savanna SLAs is much higher than for Australia.

Table 16. Field of study, males and female by savanna SLAs and Australia as a percentage of all persons over 15 years with stated qualifications (Source ABS 2002b)

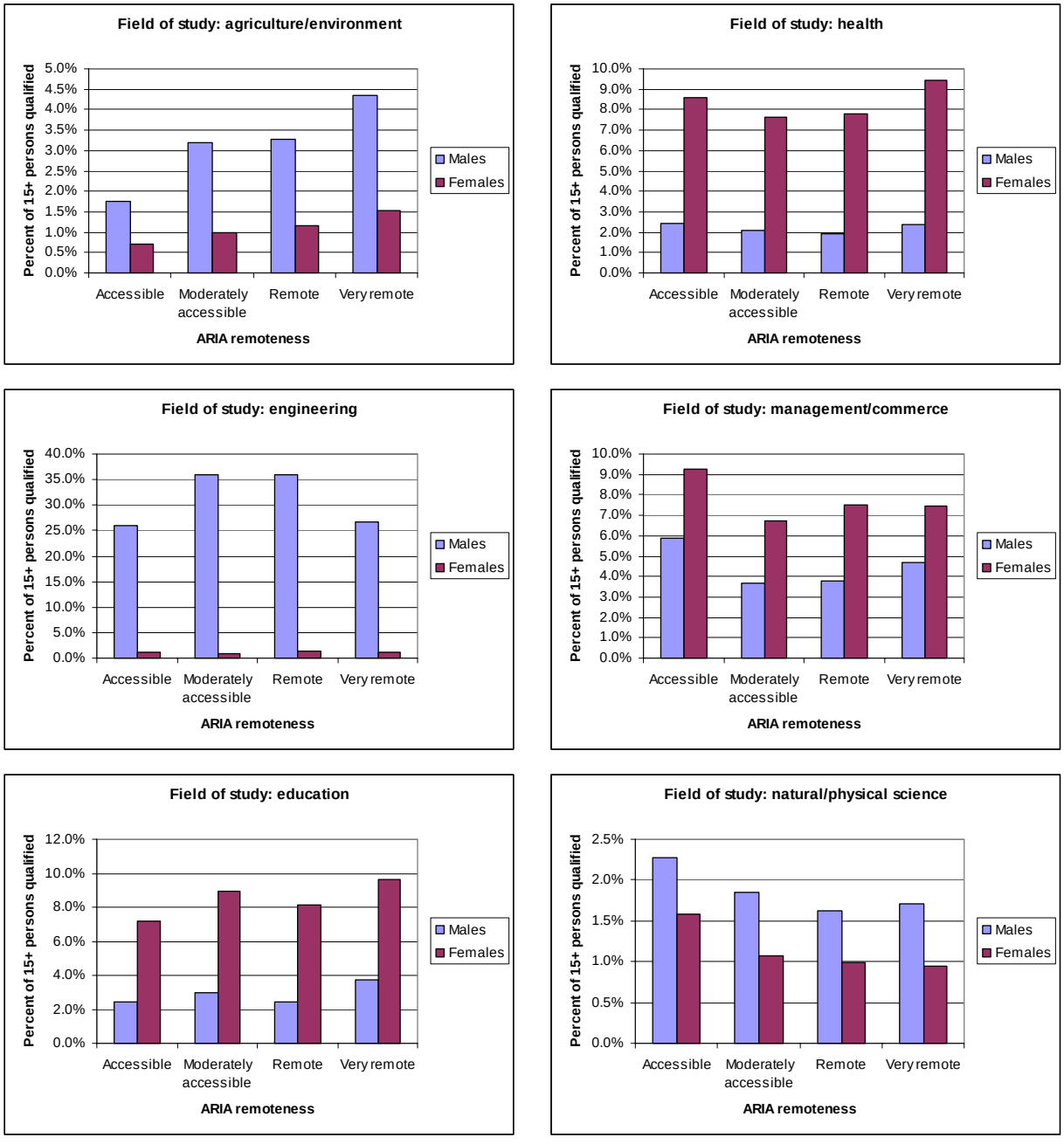
	Savanna SLAS		Australia	
Field of study	Males	Females	Males	Females
Agriculture, Environmental & Related Studies	2.6%	0.9%	1.9%	0.6%
Architecture and Building	8.0%	0.2%	7.0%	0.4%
Creative Arts	1.0%	1.4%	1.5%	2.2%
Education	2.7%	7.9%	2.4%	6.9%
Engineering and Related Technologies	28.8%	1.2%	21.8%	1.4%
Field of Study inadequately described	0.8%	0.5%	0.7%	0.6%
Food, Hospitality and Personal Services	2.8%	3.5%	2.3%	3.5%
Health	2.3%	8.5%	2.4%	8.5%
Information Technology	0.9%	0.6%	1.9%	0.9%
Management and Commerce	5.1%	8.4%	7.8%	11.4%
Mixed Field Programmes	0.0%	0.0%	0.0%	0.1%
Natural and Physical Sciences	2.0%	1.3%	2.0%	1.5%
Society and Culture	3.1%	5.3%	3.9%	6.4%
Total as a percent of males and females over 15 years with qualifications and a stated field of study	60.2%	39.8%	55.7%	44.3%
Total persons with stated field of study ('000)	82	54	3,049	2,421

A detailed analysis of the data by remoteness (see Table 67) shows that within the savanna region there are variations. A selection of fields of study[12] by remoteness are represented in Figure 6. The dominance of males with fields of study in agriculture, engineering and natural/physical science is apparent, as is the dominance of females in health, education and management/commerce. The charts for agriculture and education show the increasing significance of these fields of study as remoteness increases. For engineering, note that the relative importance peaks in the moderately accessible and remote areas and declines in very remote areas. While the proportion of qualified persons with fields of study in natural/physical science is relatively small across the savanna region, the significance of qualifications declines with remoteness.

[11] However, this analysis will not be carried out here.

[12] Each chart shows the percentage of qualified persons within a level of remoteness with reported fields of study as a proportion of all qualified persons with stated fields of study.

Figure 6. Fields of study by ARIA remoteness designation, percent of males and females of all persons with stated field of study (Source: ABS 2002b)



VET, education and learning

Within the broad scope of education and learning, VET contributes significantly to the well-being of communities. Nationally, 9% of the total population participate in one form of VET or another (NCVER 2002a). In the Northern Territory, participation in VET is stronger still[13], with 12% of the population participating—58% of all students living in remote areas (DEET 2002). This level of participation is indicative of the reach of this form of education across savanna communities. It is also indicative of the

[13] The Northern Territory, however does not differentiate between VET and Adult and Community Education (ACE), so this figure may be relatively overstated.

flexibility and applicability of VET to a broad range of interest groups, not just industries. Increasingly VET is being used by students—10% of all VET students in the Northern Territory were classified as VET in schools students in 2001—and by individuals wanting to participate for personal and social reasons (NCVER 2002b).

Employment and quality of working life

A number of indicators of social well-being fit under the heading of 'employment and quality of working life' (See Table 1). Unemployment, though a key indicator of well-being, is not the only measure of a community's capacity. The nature and distribution of work may also indicate something about the well-being of a community. The gender mix, labour force status and the type of occupations held by individuals all contribute to social well-being. These indicators suggest levels of equity, personal satisfaction, income capacity and contribution in terms of skills to the needs of the labour market.

Labour force profile

Unemployment rates provide a raw measure of community capacity—the higher the rate, the lower the capacity. It is crude because unemployment rates can be affected by a number of factors such as seasonal trends, changes in local industries and participation rates. However it is shown here as one of many indicators that indicate something about the well-being of communities. A combination of unemployment and participation in the labour force is perhaps a better indicator of capacity at the community level because of the combined impact of the skills and income that employed people who participate in the labour force have on the social and economic well-being of a community.

Figure 7 shows unemployment distributed across the savanna region in August 2001. The map shows significant areas—including remote regions of jurisdiction—that have low unemployment rates. The map also shows that highest unemployment levels were recorded in northern Queensland and in a few sections of the Northern Territory (Elsey-Bal, Cox-Finnis and Bathurst-Melville).

Figure 7. Unemployment rate: SLAs in the savanna region, August 2001 (Source: ABS 2002b)

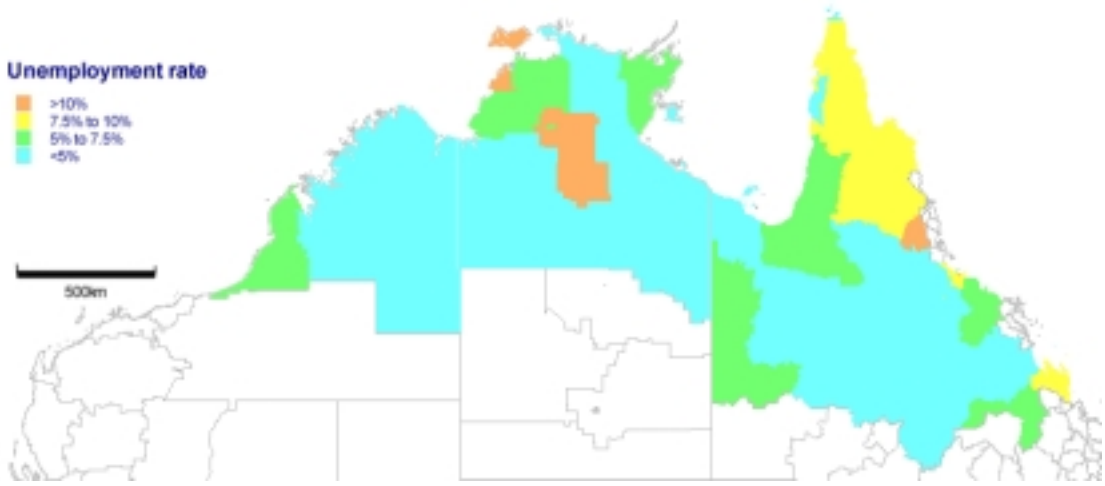


Table 17 adds to the picture provided by the map. For example, the table shows that a greater proportion of the working aged population in Western Australia are not in the

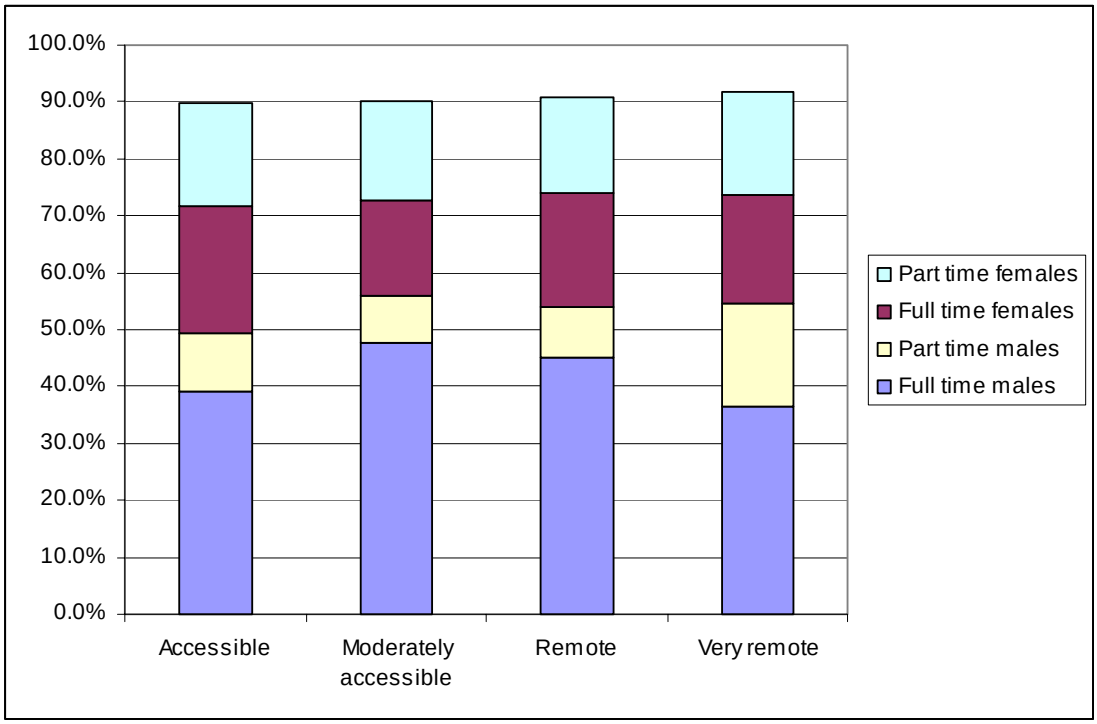
labour force compared with Queensland and the Northern Territory. The table also shows that females are more likely to be employed full time in the Northern Territory than in the other areas. People in the Western Australian section of the savanna region are more likely to work part-time than those elsewhere.

Table 17. Labour force status in savanna SLAs by state as a percent of total labour force[14]

	Queensland	Western Australia	Northern Territory	All Savanna SLAs
Full time males	42.2%	33.8%	38.3%	40.5%
Full time females	19.6%	19.5%	24.2%	20.9%
Part time males	9.9%	19.0%	12.5%	11.3%
Part time females	18.2%	19.3%	15.8%	17.6%
Not stated males	1.8%	2.0%	1.7%	1.8%
Not stated females	1.2%	1.5%	1.2%	1.2%
Unemployed males	4.2%	3.0%	3.9%	4.0%
Unemployed females	2.9%	1.9%	2.6%	2.7%
Not in labour force males	12.5%	15.8%	12.3%	12.7%
Not in labour force females	19.6%	18.0%	16.1%	18.5%

Figure 8 show the effect of remoteness on labour force status based on 2001 census data. While the proportion of part time females in the workforce changes little with remoteness, the proportion of full time females is greatest in accessible areas. The number of part-time males in remote areas (18.1% of the total labour force) is more than double that in moderately accessible areas (8.4%) and remote areas (8.9%). Males are most likely to have full-time status in moderately accessible areas where they make up 47.7% of the labour force.

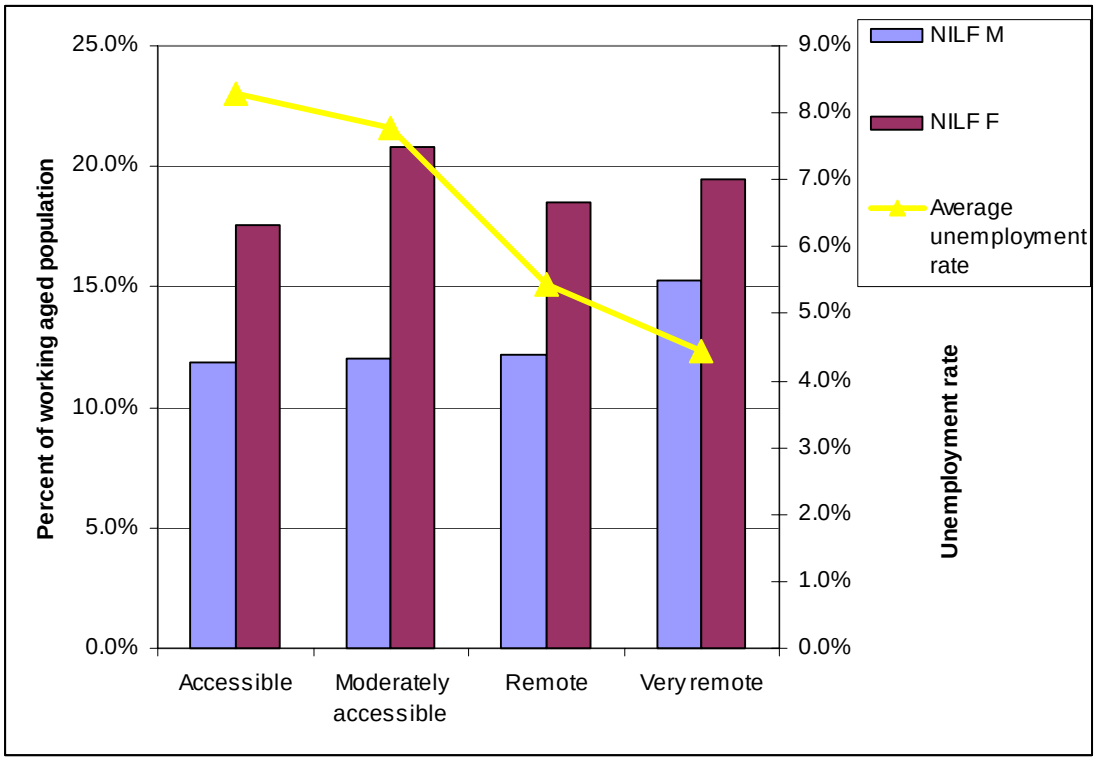
Figure 8. Full time and part time labour force as a percent of total labour force: savanna SLAs 2001 (Source ABS 2002b)



[14] Percent of those not in labour force is based on proportion of population over 15 years

Figure 9 explains further what tends to happen with remoteness. The chart shows that while unemployment tends to decline with remoteness (consistent with the map shown in Figure 7) the proportion of the working aged population not in the labour force tends to increase with remoteness.

Figure 9. Unemployment rate vs males and females not in the labour force (NILF), savanna SLAs 2001 (Source ABS 2002b)



Because of the dynamic described by Figure 9, the data shown in Table 18 includes unemployed persons, those not in the labour force and those described as 'not stated' as a composite indicator of community capacity. Of note is that the ten lowest capacity communities are in the Northern Territory, they are all classified as 'very remote' except Port Keats, which is classified as remote and they are all predominantly Indigenous in composition.

Table 18. Communities with least proportion of population in the labour force or unemployed (Source ABS 2002b)

Locality	State	2001 population	ARIA	Not working[15]	Percent Indigenous
Angurugu (L)	NT	758	12	86.5%	95.1%
Lajamanu (L)	NT	705	11.51	85.2%	88.1%
Galiwinku	NT	1463	11.88	79.2%	92.1%
Minjilang (L)	NT	204	10.4	75.4%	90.2%
Milingimbi (L)	NT	992	11.88	75.0%	92.3%
Bamyili (Barunga) (L)	NT	346	9.79	74.2%	93.4%
Numbulwar (L)	NT	717	11.88	73.4%	90.5%
Port Keats	NT	1048	8.21	73.4%	89.4%
Warruwi (L)	NT	331	10.4	73.1%	96.7%
Ramingining (L)	NT	613	11.88	70.0%	89.9%

Table 19 reveals which communities, on the same basis of workforce participation, have the highest levels of capacity. Six of these communities are either remote or very remote according to ARIA. Six of the communities are in Queensland, two of which are predominantly Indigenous communities in the Torres Strait (St Pauls and Pormpuraaw). Of those in the Northern Territory, all three are mining communities.

Table 19. Communities with highest proportion of population in the labour force or unemployed (Source ABS 2002b)

Locality	State	2001 population	ARIA	Not working[16]	Percent Indigenous
Alyangula (L)	NT	972	12	21.2%	12.3%
Glenden (L)	QLD	977	5.51	25.0%	1.8%
Pormpuraaw (L)	QLD	649	11.51	26.0%	85.8%
Beagle Bay (L)	WA	300	10.75	26.1%	92.3%
Nhulunbuy	NT	3804	11.88	26.6%	7.2%
Jabiru	NT	1775	9.06	26.7%	13.4%
St Pauls (L)	QLD	200	12	27.6%	93.5%
Bohle Plains	QLD	1075	3.79	28.0%	0.3%
Middlemount	QLD	2057	5.5	28.5%	1.5%
Alice River	QLD	1359	3.79	29.5%	1.8%

[15] This percentage is based on the value of the sum of those unemployed + those not in labour force + those not stated

[16] This percentage is based on the value of the sum of those unemployed + those not in labour force + those not stated

Industry profile

Table 20 shows the nature of employment by industry in SLAs of the savanna region in each state and territory. Overall, the table shows that retail and government administration and defence sectors are the predominant employers across the region. Agricultural industries are the second largest employer in the Queensland SLAs of the savanna.

This profile differs quite significantly from the national profile, also shown in the table. While employment in government ranks a close second in the savanna region with 12% of all employment, nationally employment in 'government, administration and defence' ranks ninth, with just 4.4% of all employment. This difference is explained mostly, though not completely, by employment in Community Development Employment Projects (CDEP) programs. In the Northern Territory for example, approximately 5% of the labour force is employed in CDEP (ABS 2002j).

Employment in the mining industry within the savanna region is six times more likely than in nationally (5.6% compared with 0.9%). While agriculture is particularly significant in Queensland—9.5% of the employment is in this industry compared to 4.0% nationally—in the Northern Territory only 3.0% of all employment is in the agricultural sector.

Table 20. Industry of employment by savanna regions within states (Source ABS 2002b)

Industry of employment	QLD	WA	NT	All savanna SLAs	AUST
Agriculture, forestry and fishing	15094	1491	2115	18700	330782
Mining	11307	706	1618	13631	75178
Manufacturing	10980	744	3360	15084	1010179
Electricity, gas and water supply	1484	133	608	2225	60692
Construction	10864	1016	4324	16204	558582
Wholesale trade	6487	439	2676	9602	437134
Retail trade	20445	1620	8406	30471	1211332
Accommodation, cafes and restaurants	8076	1144	3740	12960	410589
Transport and storage	7637	859	3424	11920	355874
Communication services	1720	150	869	2739	148480
Finance and insurance	2291	191	1309	3791	312396
Property and business services	9979	1118	6276	17373	920331
Government administration and defence	14948	2546	12673	30167	369855
Education	12222	1354	5531	19107	595398
Health and community services	13089	1494	5852	20435	806171
Cultural and recreational services	2806	267	1950	5023	202456
Personal and other services	5048	1124	3171	9343	300658
Non-classifiable economic units	671	117	695	1483	47906
Not stated	2950	427	1162	4539	144613
Total employment	158098	16940	69759	244797	8298606

Employment is not distributed evenly across the savanna however. Table 21 shows that agriculture is the largest employer in moderately accessible areas and the second largest employer in remote and very remote areas. Mining is the largest employer in remote areas and the second largest employer in moderately accessible areas. Retail industries, while the largest employer in accessible areas, tend to decline with remoteness, while government, administration and defence is the largest employer in very remote areas and second largest in accessible areas.

Table 21. Industry of employment in savanna SLAs, percent of total employed by remoteness designation (Source: ABS 2002b)

Industry of employment	Accessible	Moderately accessible	Remote	Very remote
Agriculture, forestry and fishing	2.0%	16.7%	12.9%	12.9%
Mining	1.2%	13.7%	13.6%	5.4%
Manufacturing	7.1%	7.8%	5.4%	3.7%
Electricity, gas and water supply	1.0%	1.0%	0.9%	0.7%
Construction	7.1%	6.0%	6.6%	5.8%
Wholesale trade	4.5%	3.5%	4.3%	2.2%
Retail trade	14.5%	11.4%	11.9%	8.0%
Accommodation, cafes and restaurants	5.4%	4.4%	5.4%	5.3%
Transport and storage	5.2%	4.4%	4.8%	4.2%
Communication services	1.4%	0.8%	0.8%	0.8%
Finance and insurance	2.0%	1.1%	1.3%	0.8%
Property and business services	9.1%	4.8%	5.7%	4.4%
Government administration and defence	12.6%	3.9%	5.5%	22.2%
Education	8.3%	7.9%	6.8%	7.4%
Health and community services	9.5%	6.4%	7.1%	7.6%
Cultural and recreational services	2.7%	1.1%	1.5%	1.3%
Personal and other services	4.1%	2.6%	3.1%	4.3%
Non-classifiable economic units	0.6%	0.5%	0.6%	0.6%
Not stated	1.6%	2.0%	1.8%	2.4%
Total	100%	100%	100%	100%
Total employment	126605	23341	46948	47903

Table 22 reviews changes in employment that have occurred in the intercensal period from 1996 to 2001. While the fastest growing industry in the period was the electricity, gas and water supply industry, this was from a very low base of employment after significant declines in the previous intercensal period. The growth in employment in the government sector, up 27% from the previous census, is however significant for two reasons. One reason is that if the trend continues government will be the largest employer in the savanna region by the next census. The sustainability of employment in this sector is perhaps questionable and future growth will be dependent to a large extent on government policies and initiatives for the region. The second reason, is that nationally, employment in the government sector is tending to decline, down 8% in the ten years to 2001 (ABS 2003c). Continued growth in the government sector in the savanna region would be against a background of a shrinking government sector nationally.

Changes in two other sectors are worth noting. The declines in employment in the mining industry are the greatest of any industry group shown in the table. This has significant implications for the moderately accessible and remote regions of the savanna, where mining is a major employer. It may point to declining capacity for these areas. The other observation worth noting is for the agricultural sector, which across the savanna, has grown by almost 10% in the intercensal period, well above the national growth rate of 2% for the same period (ABS 2003c). This has positive implications for community capacity in the rural and remote areas of the savanna.

Table 22. Percent change in employment by industry: 1996 to 2001 savanna regions of states/territory compared to states and territories (Source ABS 2003c)

Industry of employment	Queensland		Western Australia		Northern Territory		
	Savanna	State	Savanna	State	Savanna	Territory	Savanna region
Agriculture, forestry and fishing	7.0%	3.7%	36.8%	-1.8%	13.2%	14.3%	9.6%
Mining	-21.7%	-13.8%	11.2%	1.0%	-28.1%	-23.7%	-21.3%
Manufacturing	11.8%	12.1%	75.1%	9.0%	7.9%	12.4%	13.0%
Electricity, gas and water supply	22.9%	21.7%	9.9%	1.8%	73.3%	46.5%	32.1%
Construction	11.3%	8.9%	38.6%	13.2%	-17.9%	-9.0%	3.1%
Wholesale trade	2.1%	1.1%	29.5%	-2.7%	0.7%	5.8%	2.7%
Retail trade	16.6%	19.2%	45.3%	19.1%	15.4%	17.2%	17.5%
Accommodation, cafes and restaurants	8.8%	13.7%	24.1%	17.4%	4.2%	6.8%	8.6%
Transport and storage	10.2%	11.5%	41.7%	6.7%	13.0%	17.2%	12.8%
Communication services	-4.2%	-4.3%	38.9%	-4.1%	-8.1%	-20.6%	-3.8%
Finance and insurance	-8.1%	5.3%	13.7%	-3.0%	-7.4%	-5.5%	-7.0%
Property and business services	14.2%	16.5%	52.5%	18.9%	22.5%	21.0%	19.0%
Government administration and defence	19.3%	4.2%	302.2%	14.2%	19.4%	27.7%	27.0%
Education	9.6%	16.3%	32.4%	8.3%	13.8%	16.3%	12.1%
Health and community services	5.4%	14.4%	-51.3%	10.9%	-15.6%	-12.7%	-8.8%
Cultural and recreational services	-7.1%	11.6%	23.0%	11.1%	2.1%	7.1%	-2.4%
Personal and other services	16.6%	13.1%	45.6%	9.5%	24.3%	31.3%	22.1%
Total	9.5%	10.4%	8.2%	8.6%	2.9%	9.0%	7.5%

Business locations

An examination of business locations reveals how employment is distributed in terms of locations and size. Small businesses, by virtue of their structure, are more flexible and adaptable to small communities. The risks for a small community in terms of capacity are not as great if there a number of small businesses as opposed to one or two large businesses.

Table 23 shows business locations across the savanna region by remoteness. Consistent with employment in Table 21, the table shows the strength of the agricultural industries in moderately accessible, remote and very remote areas of the savanna. The number of business locations together with levels of employment is indicative of the size of businesses.

Table 23. Number of business locations by ARIA designation 1998 (Source ABS 2002a)

Classifications	Accessible	Moderately accessible	Remote	Very remote
Accommodation, cafes and restaurants	586	179	312	325
Agriculture, forestry and fishing	1008	1501	1896	1735
Communication services	83	27	51	42
Construction	1609	260	545	393
Cultural and recreational services	350	69	125	120
Education	314	113	169	264
Electricity, gas and water supply	33	39	52	59
Finance and insurance	387	64	112	53
Government administration and defence	211	38	94	170
Health and community services	881	167	362	302
Manufacturing	675	131	202	130
Mining	112	85	123	53
Personal and other services	717	171	297	356
Property and business services	1878	215	499	300
Retail trade	2258	442	878	673
Transport and storage	784	209	427	355
Wholesale trade	951	115	306	144
Grand total	12837	3825	6450	5474

Table 24 shows business locations by size and industry sector. Note that for both agriculture and retail the size of businesses shown in the table tends to be very small. Not surprisingly also is the way that mining has the largest number of locations where employment is above 100. Medium sized business locations are concentrated in education, probably a result of employment by schools and other educational institutions.

Table 24. Savanna business locations by number of employees 1998 (Source ABS 2002a)

Classifications	Nil	1-4	5-9	10-19	20-49	50-99	100+	Total
Accommodation, cafes and restaurants	0	695	372	174	137	16	8	1402
Agriculture, forestry and fishing	3131	2724	141	96	40	3	5	6140
Communication services	0	128	40	19	9	1	6	203
Construction	0	2246	356	107	68	23	7	2807
Cultural and recreational services	0	439	110	72	32	8	3	664
Education	0	408	114	112	142	66	18	860
Electricity, gas and water supply	0	116	26	22	11	4	4	183
Finance and insurance	0	407	122	54	25	8	0	616
Government administration and defence	0	165	109	81	88	42	28	513
Health and community services	0	1084	328	171	76	31	22	1712
Manufacturing	0	659	228	132	83	17	19	1138
Mining	0	219	38	20	39	14	43	373
Personal and other services	0	1163	228	80	39	15	16	1541
Property and business services	0	2140	436	184	91	30	11	2892
Retail trade	0	2784	980	310	105	36	36	4251
Transport and storage	0	1360	229	115	52	10	9	1775
Wholesale trade	0	967	351	148	40	8	2	1516
Grand total	3131	17704	4208	1897	1077	332	237	28586

Occupations

Occupations indicate community capacity because they reflect the skills held by employees in communities. Occupations often correlate with industries of employment. For example, the health, education and property/business service sectors tend to employ a higher proportion of professionals while manufacturing, construction and electricity/gas/water supply sectors tend to employ high proportions of tradespersons and related workers. Labourers are most likely to be found in manufacturing industries while intermediate clerical, sales and service workers are most likely to be found in wholesale, accommodation/cafes/restaurants, finance/insurance and government administration/defence (ABS 2003a).

The distribution of occupations by remoteness, shown in Table 25 is generally consistent with the industry of employment profile shown previously (see Table 21), with some exceptions. The large proportion of professionals and intermediate clerical, sales and service workers is consistent with strong retail, government and health sectors. The high proportion of intermediate production and transport workers in moderately accessible and remote areas is consistent with the strength of the mining industry in these areas. A high proportion of tradespersons and related workers is normally associated with strong manufacturing and construction industries but neither of these industries could be considered strong in moderately accessible and remote areas. The qualification profile (see Education and qualifications, page 18) does however show above average proportions of certificate qualifications (see Figure 4

and Figure 5), suggesting that the demand for certificate qualified persons for industries in the moderately accessible and remote savanna areas is above what might normally be expected for some industries. For example the high profile of defence in the Northern Territory may contribute to a higher demand for tradespersons. It may also be that mining industries in the savanna require greater levels of technical support than they might in other areas.

Table 25. Occupations in savanna regions by ARIA remoteness designations (Source ABS 2002b)

Occupation	Accessible	Moderately accessible	Remote	Very remote	Savanna Total
Managers and administrators	7.5%	12.7%	10.2%	10.2%	9.0%
Professionals	16.5%	10.6%	12.0%	13.3%	14.4%
Associate professionals	13.3%	9.2%	10.9%	10.1%	11.8%
Tradespersons and related workers	15.2%	14.2%	15.2%	12.0%	14.5%
Advanced clerical and service workers	3.2%	2.2%	2.3%	2.0%	2.7%
Intermediate clerical, sales and service workers	17.3%	10.7%	12.6%	11.5%	14.7%
Intermediate production and transport workers	8.2%	18.2%	14.2%	9.0%	10.4%
Elementary clerical, sales and service workers	9.5%	6.8%	7.4%	5.9%	8.1%
Labourers and related workers	7.5%	13.2%	13.2%	22.6%	12.1%
Inadequately described	0.7%	0.6%	0.8%	1.6%	0.9%
Not stated	1.1%	1.4%	1.3%	1.9%	1.3%
Total occupations	126575	23310	47003	47806	244694

The high proportion of labourers and related workers in very remote areas is noteworthy. Nationally, this group make up 8.6% of the workforce (ABS 2003a). Such a high proportion would not normally be associated with a strong government and agricultural sector, as is the case for remote parts of the savanna (see Table 21) but a quick glance at ABS statistics (ABS 2003e) shows that for many remote areas where government employment is strong, most likely due to CDEP, labourers make up more than half the employees in that sector. Further, given the strength of agriculture in remote and very remote areas of the savanna, it might be expected that managers and administrators would make up a higher proportion of the workforce, especially given that 95% of agricultural enterprises in savanna SLAs employ less than five persons (see Table 25).

Because of the importance of tradespersons and professionals to the occupational profile of the savanna region, Table 26 shows the ten communities least likely to have tradespersons and professionals in their population as an indicator of capacity. The combination of these two occupational groups provides an indication of a community's access to a range of skills and professional services. The communities in the table are predominantly remote communities and predominantly Indigenous.

Table 26. Communities least likely to have tradespersons and professionals in the occupation profile (Source ABS 2002b)

Locality	State	2001 population	ARIA	Trades-persons & profess-ionals[17]	Percent Indigenous
Merinda (L)	QLD	210	6.22	0.0%	26.7%
Umbakumba (L)	NT	372	12	2.5%	94.6%
Looma (L)	WA	287	11.82	6.3%	96.2%
New Mapoon (L)	QLD	326	12	7.8%	93.6%
Pormpuraaw (L)	QLD	649	11.51	8.5%	85.8%
Bardi (One Arm Point) (L)	WA	310	10.75	8.7%	95.2%
Belyuen (L)	NT	214	5.27	8.8%	94.9%
Minjilang (L)	NT	204	10.4	9.1%	90.2%
Umagico (L)	QLD	253	12	10.1%	93.7%
Kowanyama (L)	QLD	891	11.51	10.3%	84.7%

The communities shown in Table 27 have diverse industry bases including mining, education, health and community service, tourism and retail. One observation of interest is that seven of the ten shown have populations greater than 1000. The level of remoteness varies from moderately accessible to very remote, but none of the communities are predominantly Indigenous.

Table 27. Communities most likely to have tradespersons and professionals in the occupation profile (Source ABS 2002b)

Locality	State	2001 population	ARIA	Trades-persons & profess-ionals[18]	Percent Indigenous
Nhulunbuy	NT	3804	11.88	38.7%	7.2%
Batchelor (L)	NT	727	4.96	38.0%	38.5%
Alyangula (L)	NT	972	12	37.6%	12.3%
Nelly Bay	QLD	1311	5.44	35.2%	1.1%
Pallarenda (L)	QLD	882	3.17	34.6%	1.8%
Jabiru	NT	1775	9.06	34.2%	13.4%
Derby	WA	3688	11.82	34.0%	40.2%
Dysart	QLD	2463	5.5	33.6%	3.2%
Kuranda	QLD	1456	7.93	33.1%	14.7%
Tieri	QLD	1637	6.32	33.1%	1.8%

[17] This value is the percent of the working aged population with occupation as tradespersons and professionals.

[18] This value is the percent of the working aged population with occupation as tradespersons and professionals.

VET and employment

The vocational aspect of VET means that by definition, VET contributes to this aspect of community well-being. The industry profile of the savanna region does however suggest a number of important ways that VET contributes to industry and individuals in terms of their occupations. VET is particularly significant for the mining industry, though declines in employment in this sector may mean that there could be an oversupply of people with qualifications in this area. However, the transient nature of mining communities (see also Table 31) should mean that any excess of skills will quickly disappear. VET will have an increasing role to play in the retail sector. Figure 10 demonstrates the increasing significance of VET for non-traditional vocational training areas within Australia. Given the apparent low skill base of some of the predominant industries such as agriculture, transport and storage, and tourism related industries, VET should be well placed to contribute significantly to the skills base of industry generally in the savanna region.

Figure 10. Apprentices and trainees in training by major occupation group, 1996 and 2001 (Source NCVER 2002c)

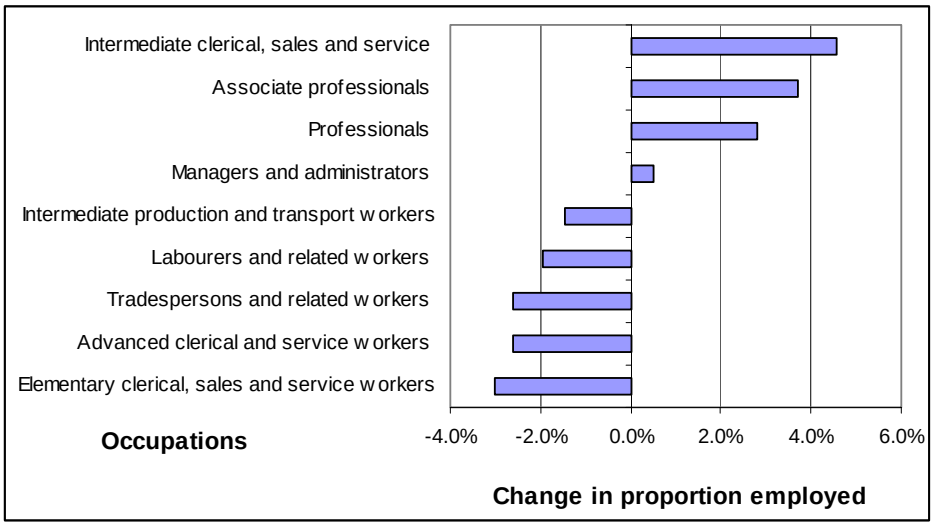
While it has been suggested that the strong government sector is potentially unsustainable, within the savanna region it employs a comparatively large proportion of low skilled people, particularly through CDEP programs. For example in the Northern Territory labourers make up 16.5% of all government employees while nationally labourers make up 5.5% in the same sector. Government, therefore as a key industry of employment stakeholder has a significant opportunity to build the skills of those in remote areas, either through CDEP or other employment programs.

The flexibility of VET makes it ideally suited to small enterprises in rural and remote areas of the savanna region. Whereas universities traditionally require major infrastructure developments or at least access to communication and technology services, the flexibility of VET means that it can be applied to almost any context regardless of access to infrastructure or services.

However, questions remain about the contribution VET is likely to make to the emerging ‘knowledge economy’ in Australia. Figure 11 demonstrates that in the 10

years to 1996 many employment areas traditionally associated with VET have been in decline. The exception is the 'intermediate clerical, sales and service' category. This occupational category, however, is associated with part time work and relatively low skill levels (ABS 2003c). From a strategic and planning point of view, determining how VET will contribute to the future occupational and industrial needs of the savanna region, may be useful.

Figure 11 Change in occupational profile in Australia, 1986 to 1996 (Source: Falk & Guenther 2002).



Culture and leisure

Culture and leisure are important components contributing to the well-being of communities. ABS (2001c:270) summarises the contribution of culture and leisure:

> People participating in various forms of cultural expression, such as the arts, are empowered through being creative, developing and using skills, and contributing to cultural identity. Leisure time gives people an opportunity to recover from pressures of work and other commitments, to bond with family and community members, to pursue their interests, and to reflect on their life direction and meaning.

ABS suggest that some of the quantifiable well-being indicators of this band include:

- Time use measures
- Occupations classified within culture and leisure industries
- Attendance at cultural and leisure events
- Expenditure on outputs within culture and leisure industries

Hours worked

Within this broad range of measures there are a number of data sources including census data, time use surveys and various other surveys relating to culture and leisure activities, including tourism indicators (ABS 2002h). The 1997 Time Use survey (ABS 1998a) provides a wide range of data on leisure and cultural activities but given that the data is relatively old and not specific to regions it cannot be used as a source for analysis here. While tourism indicator data is available at SLA level the difficulty associated with measures such as room occupancy rates or expenditure on tourism related activities, is that the data reflects visitors' participation in leisure—not

residents'. Other culture and leisure surveys mentioned in ABS (2001c) are less useful, except the census data.

Within the census data, there are a number of possible indicators of the contribution of culture and leisure to community capacity and sustainability. These include:

- Cultural diversity—measured by country of origin and Indigenous status
- Language spoken at home
- Use of internet and computers
- Industry of employment—using leisure and culture subcategories identified by ABS (2001c)
- Hours of work

However, the way some of these indicators contribute to community capacity is difficult to assess and may depend on other related factors. For example, while cultural diversity has been shown to be associated with higher levels of employment in certain industries as well as higher levels of qualifications (CRLRA 2001b), the kind of cultural diversity expected in the savanna region is not representative of other areas of Australia. Similarly, the ability to speak a language other than English, which may contribute strongly to inter-cultural engagement in metropolitan areas, may not have the same advantages in the savanna region, where Indigenous languages are the main alternative to English. For example, the problems associated with bilingual education and the diversity of Australian languages in the Northern Territory are highlighted by Collins (NTDE 1999).

The analysis to be shown in this section will review census data relating to hours worked, based on the assumption that with increasing working hours there is decreased opportunity for engagement in social, cultural or personal leisure activities. The relationship between hours worked and well-being is however not linear because to some extent participation in work enhances social engagement through networks established in the workplace and increases an individual's capacity to access leisure activities that require income. For example, part time workers are less likely to be stressed, more likely to be satisfied with their work and more likely to be able to better balance work-life issues (Glezer & Wolcott 1998; Gollan 2001; Morehead *et al* 1997; WFU 1999).

Maximising the benefits of leisure time for communities requires a balance between work and free time. Therefore while long working hours restrict the ability of individuals to participate in leisure activities, low working hours also inhibit participation because of lower incomes. Therefore the optimal mix of work and leisure should fit within the mid-range of the spectrum of maximum full-time and maximum part time work.

Figure 12 shows the relationship between participation in full-time work and house worked. Using the chart as a guide, this balance point could be expected where full time employment falls between 35% and 45% of total employment. The correlation between the two variables is quite strong (r=.699), indicating a positive relationship such that long hours of work are associated with full time work[19].

[19] This relationship is probably expected, but as ABS community data does not include hours of work, the correlation suggests that full time work can be used as a proxy for long hours.

Figure 12. Relationship between long hours of work and full time employment as a percent of all working aged population, savanna SLAs (Source ABS 2003a)

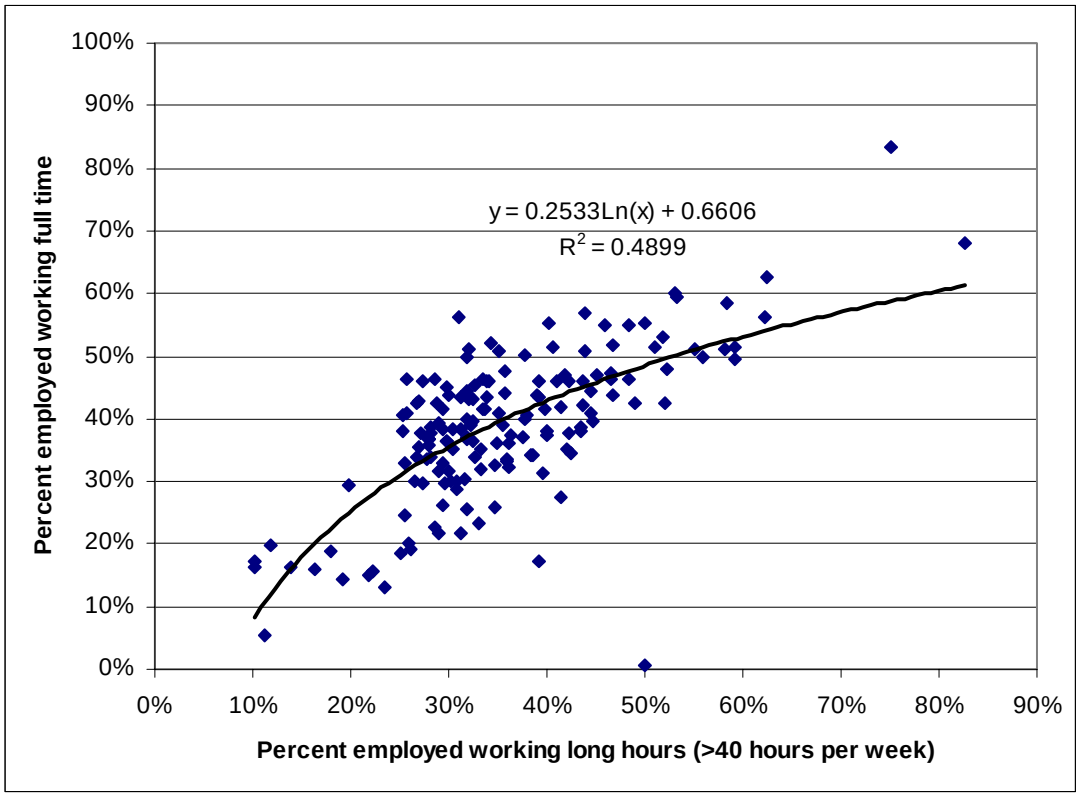


Table 28 shows the resulting list of communities with a hypothesised optimum mix of work and leisure. This list stands out as being quite different from 'high capacity' communities shown previously. Apart from the obvious observation that almost all the communities are in Queensland, almost all of the communities are the main centre of the shire that they are in (Katherine, Clermont, Barcaldine, Duaringa, Tambo, Winton) or very close to a main centre (Alligator Creek, Brandon). A detailed analysis of the industry mix of these communities shows a varied mix of industry ranging from manufacturing and construction through to government services, education and mining. Another interesting feature of these communities is that their level of mobility is close to the average of all the savanna communities with an average of 49.7% of the population having the same address as 5 years ago. This compares with the all community average of 51.7%. Remoteness does not appear to be associated with this indicator—ARIA values range from 4.44 (moderately accessible) through to 12 (very remote) for these communities.

Table 28. Communities with 'optimum' mix of full-time work and leisure (Source ABS 2002a)

Locality	State	2001 population	ARIA	Percent employed full time[20]	Percent with same address 5 yrs ago
Katherine	NT	6719	6.89	39.6%	29.6%
Thursday Island	QLD	2693	12	39.2%	38.8%
Clermont	QLD	2042	7.08	39.4%	45.8%
Barcaldine	QLD	1496	11	39.1%	49.4%
Alligator Creek (L)	QLD	976	3.78	40.8%	55.8%
Duaringa (L)	QLD	258	4.44	40.8%	51.6%
Deeragun	QLD	5631	3.38	39.6%	47.8%
Tambo (L)	QLD	359	10.48	40.8%	62.1%
Winton	QLD	1321	11.49	40.1%	49.7%
Brandon (L)	QLD	850	4.66	40.9%	60.7%

By contrast the communities with a minimal amount of leisure time shown in Table 29 could be characterised as mining communities with the exception of Julia Creek, which is the administrative centre for the McKinley shire. The mobility of this group of communities is markedly higher than for the optimum group, with an average of just 34.2% of the population having the same address five years ago. As with the 'optimum' group of communities, remoteness does not appear to be associated with this indicator—ARIA values range from 4.44 (moderately accessible) through to 12 (very remote) for these communities.

Table 29. Communities with minimum mix of full-time work and leisure (Source ABS 2002a)

Locality	State	2001 population	ARIA	Percent employed full time[21]	Percent with same address 5 yrs ago
Alyangula (L)	NT	972	12	58.7%	35.7%
Glenden (L)	QLD	977	5.51	58.2%	20.9%
Nhulunbuy	NT	3804	11.88	54.5%	33.2%
Middlemount	QLD	2057	5.5	54.1%	38.8%
Tieri	QLD	1637	6.32	52.3%	22.5%
Dysart	QLD	2463	5.5	51.6%	43.3%
Pine Creek (L)	NT	472	8.21	49.6%	30.7%
Moranbah	QLD	6133	7.08	49.1%	42.3%
Blackwater	QLD	4928	4.44	49.1%	31.9%
Julia Creek (L)	QLD	525	10.28	47.7%	42.7%

The impact of low levels of employment have been previously discussed (see Table 18). High available leisure time is closely associated with low workforce participation and the result is lower access to a range of leisure activities than for those communities where there is a balance of work and leisure.

[20] Calculated as a proportion of the total 15+ population

[21] Calculated as a proportion of the total 15+ population

Work and mobility

Figure 13 describes the relationship between mobility and full time employment. The negative correlation (r=-.625) suggests that mobility increases with higher levels of full time employment. This relationship supports a view that there is an optimum range for full time employment in order to achieve higher levels of social well-being. In terms of social capital, low levels of mobility may indicate an over-reliance on 'bonding ties' in a community, while high mobility ensures that social trust internal community bonds are not strong enough to support a socially sustainable community. It is hypothesised that those communities with 'optimum' levels of available leisure time are more likely to have a mix of bridging and linking ties (Woolcock 1999), yet at the same time building the necessary internal linkages to ensure the development of social trust. The impact of these characteristics in 'optimum' leisure level communities could be expected to contribute to community capacity and sustainability (ABS 2002e, Falk & Guenther 2000, OECD 2001a).

Figure 13. Relationship between percent of 15+ population in full time work and mobility, measured as a proportion of the population with the same address five years ago (Source ABS 2002a)

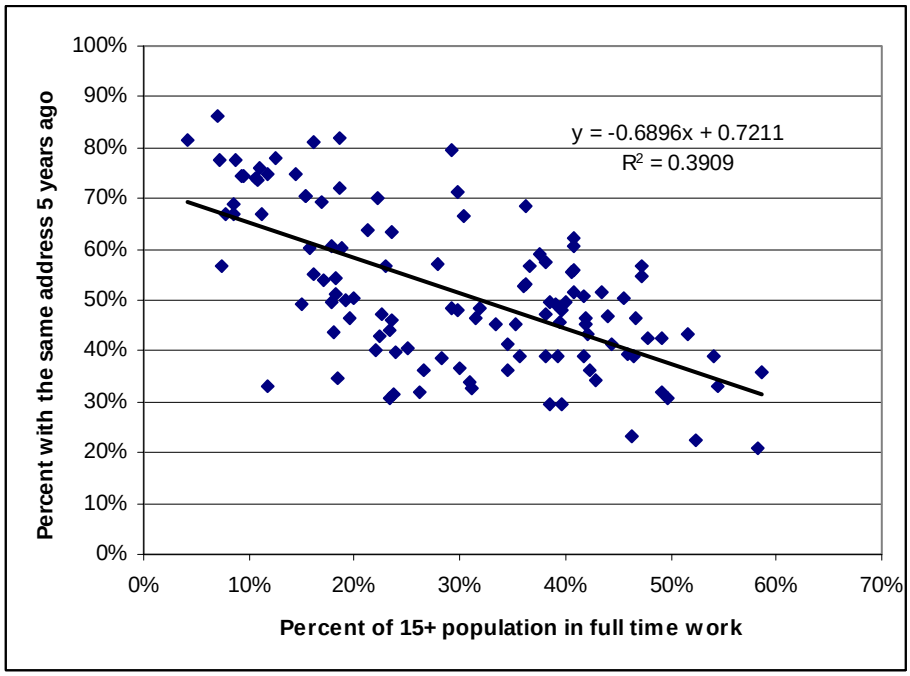


Table 30 shows the communities with a balance between those who have the same and those who had a different address five years ago. Consistent with the observations made in Table 28, it appears that these communities are generally the main administrative centres for their region, with four of the communities having 'Government administration and defence' as the main industry of employment.

Table 30. Savanna communities with a balance of mobile people and those who are not – closest to 50% with the same address five years ago (Source ABS 2002b)

Locality	State	2001 population	ARIA	Main industry of employment[22]	Percent with same address 5 yrs ago
Alpha (L)	QLD	367	9.56	Govt Admin, Defence	50.4%
Bamaga (L)	QLD	774	10.99	Govt Admin, Defence	49.5%
Barcaldine	QLD	1496	11	Construction	49.4%
Elliott (L)	NT	419	11.7	Govt Admin, Defence	50.1%
Fitzroy Crossing	WA	1507	11.82	Govt Admin, Defence	50.4%
Howard Springs	NT	3440	3.96	Retail Trade	50.8%
Mareeba	QLD	6900	7.93	Retail Trade	48.6%
Mount Garnet (L)	QLD	417	5.72	Education	49.2%
Ravenshoe (L)	QLD	830	5.72	Retail	49.5%
Winton	QLD	1321	11.49	Retail	49.7%

Table 31 shows communities that are most mobile in terms of the percent of the population with a different address five years ago. In nine of the ten centres listed, more than half the population had moved into the locality/urban centre, within the last five years. Half of the communities shown have mining as the predominant industry. Only two of the communities are classified as 'very remote'.

Table 31. Savanna communities with a highly mobile population—greatest percent of population with different address five years ago (Source ABS 2002b)

Locality	State	2001 population	ARIA	Main industry of employment[23]	Percent with different address 5 yrs ago
Glenden (L)	QLD	977	5.51	Mining	61.7%
Palmerston	NT	20570	3.3	Govt Admin, Defence	59.3%
Tieri	QLD	1637	6.32	Mining	58.1%
Pine Creek (L)	NT	472	8.21	Mining	53.4%
Yeppoon	QLD	10778	3.37	Retail	53.3%
Katherine	NT	6719	6.89	Govt Admin, Defence	53.2%
Blackwater	QLD	4928	4.44	Mining	53.0%
Herberton (L)	QLD	946	5.72	Education/Retail	51.4%
Alyangula (L)	NT	972	12	Mining	50.9%
Boulia (L)	QLD	290	9.68	Govt Admin, Defence	48.6%

[22] The main industry of employment is here defined as the industry of employment with the highest number of employees for that locality

[23] The main industry of employment is here defined as the industry of employment with the highest number of employees for that locality

Table 32, by contrast, shows highly stable communities in which more than three-quarters of the population had not moved in the last five years. These communities are all classified as 'very remote', have mainly Indigenous populations and are such that the only significant employer is 'government administration and defence', suggesting strong participation in CDEP programs.

Table 32. Savanna communities with a highly stable population—greatest percent of population with the same address five years ago (Source ABS 2002b)

Locality	State	2001 population	ARIA	Main industry of employment[24]	Percent with same address 5 yrs ago
Looma (L)	WA	287	11.82	Govt Admin, Defence	86.4%
Nguiu	NT	1310	10.35	Govt Admin, Defence	82.1%
Angurugu (L)	NT	758	12	Govt Admin, Defence	81.5%
Milingimbi (L)	NT	992	11.88	Govt Admin, Defence	81.0%
Umbakumba (L)	NT	372	12	Govt Admin, Defence	79.6%
Gapuwiyak (L)	NT	668	11.88	Govt Admin, Defence	78.0%
Bardi (One Arm Point L)	WA	310	10.75	Govt Admin, Defence	77.7%
La Grange (L)	WA	511	10.75	Govt Admin, Defence	77.7%
Oenpelli (L)	NT	858	10.4	Govt Admin, Defence	76.0%
Galiwinku	NT	1463	11.88	Govt Admin, Defence	75.0%

A few observations can be made about these mobility tables. Firstly, government administration and defence figures as a significant employer in all three tables. However, in the stable communities this industry contributes at least half of all employment, suggesting a possible unsustainable reliance on this employment source. By contrast, generally government forms part of a wide mix of employers in the 'optimum' group of communities. In Alpha for example, while government is the main employer, it comprises just one sixth of all employment. In general the mobility tables characterise three types of communities: the optimum mix communities are ones in which there is a balance between bonding and linking ties; the highly mobile communities suggest strong linking ties but weak bonding ties and the highly stable communities suggest strong bonding ties with weak linking ties. The last two groups of communities are therefore more vulnerable.

VET, culture and leisure

VET has been shown to contribute to culture and leisure aspects of community in a number of ways (Falk, Golding & Balatti 2000; Birch *et al* 2003). This is particularly true if a broader definition, which includes ACE, is used. CRLRA (2001b), for example, found that in a number of study sites, VET contributed positively to individuals' well-being in terms of lifestyle interests. ACE participants tend to favour course in the humanities field of study and visual/performing arts (NCVER 2001). Even within the formal VET sector the reasons for participation are often related to personal needs. For example, NCVER (2002b) reports that 'self-developers' (respondents who undertook their TAFE training for interest, personal or other reasons) make up the biggest single group of VET module completers.

[24] The main industry of employment is here defined as the industry of employment with the highest number of employees for that locality

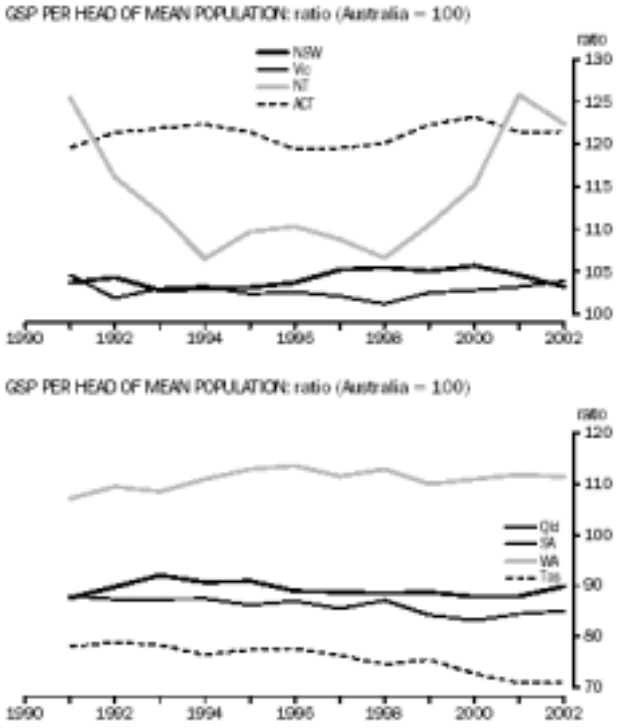
In addition to this aspect of VET, many students participate in training for industries associated with leisure industries. The growing significance of formal qualifications in the hospitality industry, for example, suggests that VET plays a pivotal role in meeting the culture and leisure needs of local communities.

Command over goods and services

Living standards of individuals and families are to a large extent determined by their income levels. Higher income levels and the economic wealth that results increases the ability of individuals—and collectively, communities—to access a range of goods and services, which contribute to a sense of well-being. Well-being is mitigated by hours worked, (see also Hours worked, page 40) but in general a community's capacity to develop in terms of health, education, housing and employment are to a large extent determined by the community's level of wealth. Income levels are one indicator of economic well-being that will be used in this section to indicate community capacity. However it is acknowledged that low income alone does not determine a community's capacity to consume goods and services.

Wealth in the form of assets is another determining factor (ABS 2001c) that is particularly relevant to rural areas of the savanna where farmers are often described as asset rich but income poor. While Gross National Product (GNP) and Gross State Product (GSP) indicate an overall level of wealth, assessment of the degree of wealth at the community or regional level is difficult to assess in these terms and even if the data were available high overall consumption, income and capital formation (components of GSP) do not reveal inequities in income and wealth distribution. Figure 14, for example shows relative measures of GSP by state and territory. The per head GSP ratio for the Northern Territory in 2002 is the highest of all states and territories in Australia.

Figure 14. GSP per head of population, Australian states and territories 1990-2002 (Source: ABS 2002i)



However, this high GSP level does not reflect the income position of particular groups within the population, such as Indigenous people, particularly in areas outside Darwin. Table 33 shows the disparity between Indigenous and non-Indigenous persons in the Northern Territory, based on 2001 census data. The table suggests that non-Indigenous people outside Darwin are likely to earn more than three times that of Indigenous people.

Table 33. Median weekly individual income, Northern Territory 2001 Census for Indigenous and non-Indigenous persons (Source ABS 2002j)

Region	Indigenous	Non-Indigenous	Total
Northern Territory	$160 - $199	$500 - $599	$400 - $499
Darwin SD	$200 - $299	$500 - $599	$500 - $599
Northern Territory-Bal SD	$160 - $199	$500 - $599	$200 - $299

Dependency ratio

Apart from income and wealth, a community's economic capacity is determined to a large extent by its demographic profile. High proportions of dependents—children and retirees—inhibit the community's capacity to access a range of goods and services that a community with a low dependency ratio[25] might expect. It also places higher demands on education and health resources. Dependents however cannot be seen as a social 'drain' because they contribute to the socio-economic well-being of a community both through in-kind economic contribution as well as through the development of social capital. In terms of raw contribution to economic capacity of a community the dependency ratio will here be taken as in indicator of well-being such that a higher dependency ratio is associated with lower economic well-being.

Two observations can be made about the dependency ratios shown in Table 34. Overall, Queensland and Western Australia have higher dependency ratios than the Northern Territory. This applies to both the state and the savanna SLAs. In the Northern Territory, dependency ratios tend to increase with remoteness while in Queensland in accessible areas the dependency ratio is lower than for other areas, but dependency is highest in moderately accessible areas. The reason for this is possibly related to a combination of factors including the industry mix, Indigenous demographic patterns and the general demographic distribution of population across the regions. The reason for the lower ratio in the Northern Territory is almost entirely due to the lower proportion of retirees compared with Queensland and Western Australia (see Table 55).

Table 34. Dependency ratios by state/territory and remoteness for savanna SLAs (Source ABS 2002b)

Remoteness	QLD	WA	NT	Total
Accessible	0.45		0.37	0.41
Moderately accessible	0.51		0.39	0.48
Remote	0.47		0.45	0.46
Very remote	0.49	0.47	0.49	0.49
All Savanna SLAs	0.47	0.47	0.40	0.44
Whole state/territory	0.50	0.48	0.41	

[25] The dependency ratio is a measure of the "dependent" population (aged 0–14 years and 65 years and over) compared to the "independent" population (aged 15–64 years).

Table 35 shows the effect of remoteness and Indigenous status on dependency ratios. The table shows that dependency ratios tend to increase with increasing proportion of Indigenous persons in the SLA population in very remote areas and overall. The trend for other remoteness designations is not clear due to insufficient data. However there is a clear difference between mainly Indigenous regions and mainly non-Indigenous areas such that those SLAs with less than 50% Indigenous persons in the population have a dependency ration of about 0.44 while those SLAs in the greater than 50% Indigenous regions have an average dependency ration of about 0.50.

Table 35. Dependency ratios by Indigenous population percentage and remoteness for savanna SLAs (Source ABS 2002b)

	Percent Indigenous persons in SLA population				
Remoteness	**0-25**	**25-50**	**50-75**	**75-100**	**Total**
Accessible	0.41		0.01		0.41
Moderately accessible	0.51	0.39			0.48
Remote	0.45		0.60		0.46
Very remote	0.47	0.47	0.52	0.53	0.49
Grand Total	0.43	0.44	0.46	0.53	0.44

These data suggest that because of the dependency ratio, it can be said that generally, economic well-being for accessible communities is higher than for remote communities. The same applies to communities on the basis of Indigenous status such that Indigenous communities tend to have lower economic capacity. It must be noted however that these factors are important *only* because those SLAs with higher proportions of Indigenous persons and those in remote areas tend to have higher proportions of dependents in their populations.

Table 36 shows the savanna communities with the lowest dependency ratios. This implies that these communities have the greatest capacity for economic well-being because there are a higher proportion of working aged people in the population. Perhaps not surprising is the observation that most of these communities are based on an economy of mining (Jabiru, Pine Creek, Middlemount, Dysart and Nhulunbuy).

Table 36. Savanna localities with the lowest dependency ratios (Source ABS 2002b)

Locality	State	2001 population	ARIA	Dependency ratio	Percent Indigenous
Jabiru	NT	1775	9.06	0.32	13.4%
Horseshoe Bay (L)	QLD	590	5.44	0.33	1.2%
Darwin	NT	71347	3	0.34	8.3%
Pine Creek (L)	NT	472	8.21	0.35	9.5%
Timber Creek (L)	NT	300	11.51	0.36	22.7%
Middlemount	QLD	2057	5.5	0.36	1.5%
Dysart	QLD	2463	5.5	0.36	3.2%
Lockhart River (L)	QLD	454	10.82	0.36	61.0%
Nhulunbuy	NT	3804	11.88	0.37	7.2%
Alligator Creek (L)	QLD	976	3.78	0.37	2.4%

Table 37 shows savanna localities with the highest dependency ratios. More than half of these are very remote and all but two of the communities are predominantly Indigenous. Most of the communities are in Queensland. Again, it should be noted that it is not remoteness or Indigenous status that inhibits these communities in terms of economic well-being—rather it is the high proportion of dependents in the population.

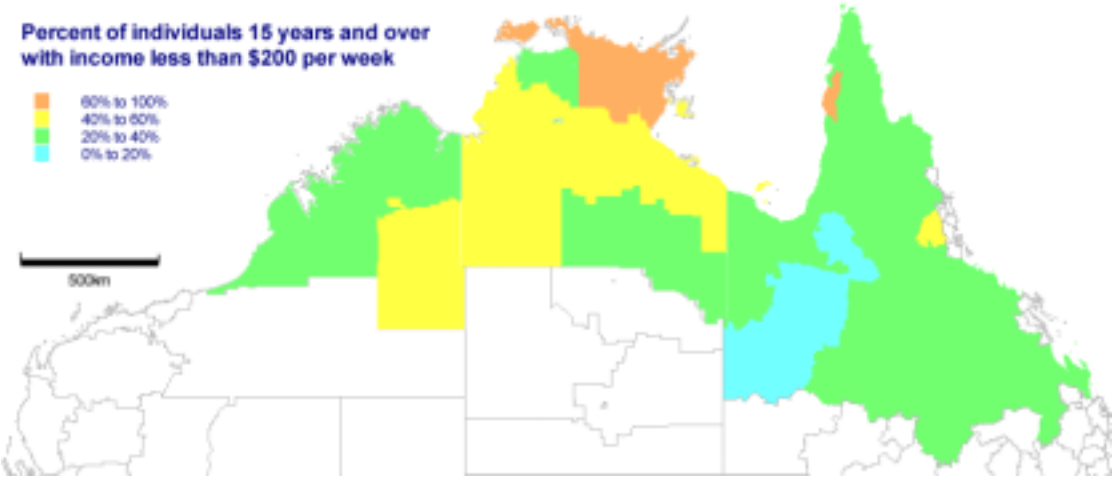
Table 37. Savanna localities with the highest dependency ratios (Source ABS 2002b)

Locality	State	2001 population	ARIA	Dependency ratio	Percent Indigenous
New Mapoon (L)	QLD	326	12	0.99	93.6%
Dimbulah (L)	QLD	409	7.93	0.83	5.9%
Injinoo (L)	QLD	389	10.99	0.81	96.7%
Herberton (L)	QLD	946	5.72	0.77	18.5%
Aramac (L)	QLD	323	10.96	0.74	4.6%
Bamaga (L)	QLD	774	10.99	0.74	82.4%
Minjilang (L)	NT	204	10.4	0.73	90.2%
Beagle Bay (L)	WA	300	10.75	0.72	92.3%
Woorabinda (L)	QLD	961	4.44	0.72	92.9%
Port Keats	NT	1048	8.21	0.72	89.4%

Income profile

While recognising its limitations as a measure of economic well-being, income is a direct indicator of the current economic well-being of a region or community. Income data provided by the ABS Census (2002b) shows the number of individuals who have income in given ranges. Figure 15 shows the profile of low income earners across the savanna region. In general, the map shows that the lowest income regions of the savanna are Arnhem Land, Bathurst/Melville Island and Aurukun on Cape York. In each of these regions greater than 60% of the population earned less than $200 per week[26]. Large areas of remote Northern Territory and the East Kimberley region of Western Australia showed between 40% and 60% of the population over 15 years earning less than $200 per week. The scale of the map does not show some of the larger regional centres but it does give a picture of the rural areas of the savanna.

Figure 15. Percent of individuals 15 years and over with income less than $200 per week: SLAs in the savanna region, August 2001 (Source: ABS 2002b)



[26] As at August 2001

Figure 16 maps the data for high income individuals in the savanna region, where weekly income is above $1000 per week. The highest income area shown is the Mackay region of central Queensland where mining is a significant industry. Other SLAs where greater than 30% of individuals have an income above $1000, which do not show on the map, are Nhulunbuy in the Northern Territory and Cook (Weipa only) in Far North Queensland. Again, mining is the predominant industry in those places.

Figure 16. Percent of individuals 15 years and over with income greater than $1000 per week, August 2001: SLAs in the savanna region (Source: ABS 2002b)

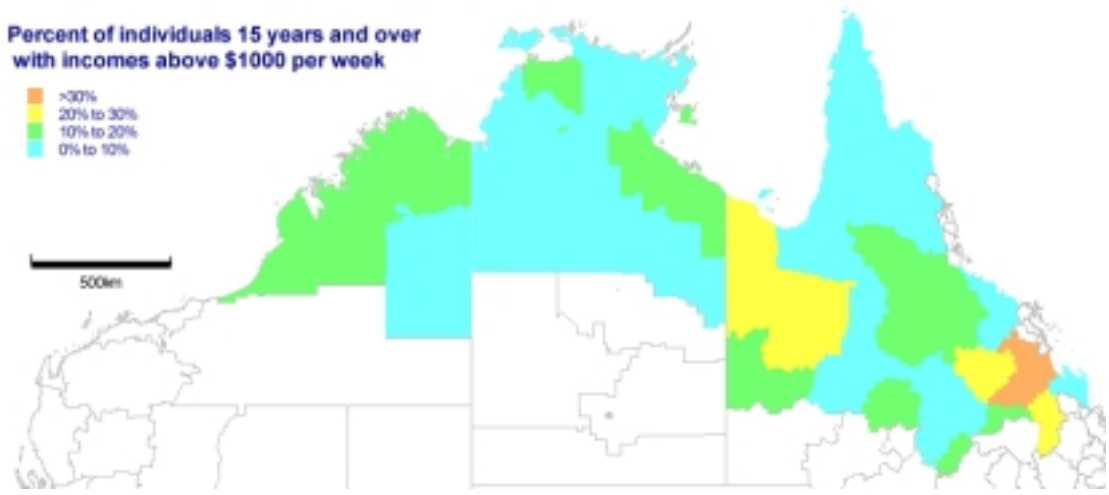


Table 38 summarises the data shown in the preceding figures and shows that generally, the highest income regions are in the mining regions of Queensland (Mackay and North-West) and the lowest income regions of the savanna are in rural areas of the Northern Territory.

Table 38. Percent of working population with stated incomes by region (based on SLAs within SDs), 2001 (Source: ABS 2002b)

Savanna SLAs included in Statistical Division:	Percent of individuals with weekly income				
	<$200	$200-$299	$300-$399	$400-$999	>$1000
Central West (QLD)	25.2%	13.1%	11.4%	40.1%	10.2%
Mackay	27.3%	7.8%	6.5%	26.7%	31.8%
North West (QLD)	25.0%	11.8%	9.5%	33.4%	20.3%
Kimberley	30.8%	12.5%	9.2%	34.5%	13.0%
Far North (QLD)	36.3%	15.4%	11.4%	29.6%	7.4%
Fitzroy	31.3%	13.4%	9.6%	31.8%	14.0%
Darwin	22.0%	9.3%	7.5%	45.8%	15.4%
Northern Territory-Bal	40.6%	10.1%	7.0%	31.5%	10.7%
Northern (QLD)	28.3%	13.7%	9.9%	38.8%	9.3%
Grand Total	29.4%	12.2%	9.1%	36.7%	12.5%

The ABS data also allows for an examination of income distribution to determine for example where income is distributed most inequitably. Table 39 shows those SLAs where the proportion of the working aged population earning less than $200 per week and where the proportion of those earning greater than $1000 per week is greater than 20%. An interesting observation is that most of the SLAs correspond to the high income regions shown in Figure 16 (Duaringa, Belyando, Peak Downs, Broadsound, Nebo).

Table 39. Savanna SLAs with most inequitable individual income distribution based on percent with incomes below $200 per week and those with incomes above $1000 per week (Source: ABS 2002b)

Locality	State	2001 population	ARIA	Percent earning <$200 per week[27]	Percent earning >$1000 per week
Burke (S)	QLD	2148	11.58	34.2%	21.4%
Duaringa (S)	QLD	7886	4.44	31.2%	26.3%
Belyando (S)	QLD	9886	7.08	28.9%	29.7%
Peak Downs (S)	QLD	3302	6.32	27.8%	30.3%
Broadsound (S)	QLD	6601	5.5	27.8%	31.7%
Mount Isa (C)	QLD	21639	8.94	23.4%	22.9%
The Gardens	NT	900	3	21.5%	23.0%
Durack	NT	2405	3.25	20.8%	21.9%
Nhulunbuy	NT	3806	12	20.3%	34.5%
Nebo (S)	QLD	2524	5.51	20.0%	39.8%

An analysis of individual income and Indigenous status shown in Table 40 shows how Indigenous status is related to individual income levels. The table shows clearly that as the proportion of Indigenous persons in the SLA population increases, the proportion of those earning low incomes increases and the proportion of those earning high incomes decreases. There is a strong positive correlation between percent indigenous persons in the population and percent of individuals in the population with incomes less than $200 per week such that r=0.791. There is an almost equally strong negative correlation between percent indigenous and individual income above $400 per week such that r=-.716.

Table 40. Percent with stated incomes by percent Indigenous persons in the population, Savanna SLAs, 2001 (Source: ABS 2002b)

Weekly individual income ($)	0-25% Indigenous persons	25-50% Indigenous persons	50-75% Indigenous persons	75-100% Indigenous persons	Grand Total
<200	26.8%	36.8%	48.5%	71.4%	29.4%
200-299	12.1%	14.6%	13.0%	11.6%	12.2%
300-399	9.3%	10.0%	7.8%	4.7%	9.1%
400-999	38.7%	29.5%	22.0%	9.6%	36.7%
>1000	13.2%	9.2%	8.7%	2.8%	12.5%

[27] Percent of over 15 year old population

Table 41 shows income distribution by remoteness classification. The lower income categories vary little from accessible through to remote regions. However in very remote regions the proportion of low income earners jumps considerably. High income earners (above $1000 per week) peak in remote SLAs. These data area consistent with the industry profile (see Table 21) which shows mining as the main employer in moderately accessible and remote areas and the occupation profile (see Table 25) which shows labourers as the main occupational group in very remote areas.

Table 41. Percent with stated incomes by ARIA designations (Source: ABS 2002b)

Weekly individual income ($)	Accessible	Moderately accessible	Remote	Very remote	Total
<200	26.4%	29.8%	28.4%	37.6%	29.4%
200-299	11.7%	13.7%	12.5%	12.4%	12.2%
300-399	8.8%	9.8%	9.7%	9.0%	9.1%
400-999	41.5%	32.5%	33.5%	29.7%	36.7%
>1000	11.5%	14.2%	15.8%	11.2%	12.5%

Table 42 shows localities with highest and lowest income levels. The mining communities of Queensland and Northern Territory figure prominently again in the high income communities of the savanna region. The low-income communities are characterised by their remoteness and could be described as communities with high proportions of Indigenous populations.

Table 42. Savanna localities with highest and lowest weekly individual incomes (Source: ABS 2002b)

Locality	State	2001 population	ARIA	Percent[28] earning <$200 per week	Percent earning >$1000 per week
Tieri	QLD	1637	6.32	23.5%	40.8%
Glenden (L)	QLD	977	5.51	20.9%	39.2%
Middlemount	QLD	2057	5.5	23.2%	38.7%
Alyangula (L)	NT	972	12	17.8%	36.5%
Dysart	QLD	2463	5.5	24.6%	33.8%
Moranbah	QLD	6133	7.08	26.6%	33.0%
Blackwater	NT	4928	4.44	25.7%	31.6%
Nhulunbuy	NT	3804	11.88	17.0%	29.9%
Bluff (L)	QLD	317	4.44	32.4%	29.4%
Pine Creek (L)	NT	472	8.21	20.3%	25.1%
Warruwi (L)	NT	331	10.4	90.4%	1.4%
Angurugu (L)	NT	758	12	81.9%	0.0%
Looma (L)	WA	287	11.82	79.1%	0.0%
Umbakumba (L)	NT	372	12	77.9%	1.2%
Milingimbi (L)	NT	992	11.88	73.4%	1.3%
Galiwinku	NT	1463	11.88	72.2%	2.3%
Port Keats	NT	1048	8.21	71.7%	4.2%
Ramingining (L)	NT	613	11.88	71.4%	2.9%
Bardi (One Arm Point) (L)	WA	310	10.75	70.9%	1.4%
Gapuwiyak (L)	NT	668	11.88	69.9%	2.1%

[28] Percent of over 15 year old population

Summarising the findings from the analysis of income, it is clear that in terms of income and dependency (with few exceptions) the mining communities of Queensland and the Northern Territory have both the highest current earning capacity and the highest capacity to earn income. These communities are generally in moderately accessible or remote areas of the savanna. The measures reviewed here are indicators of *economic* well-being. The relative wealth of these communities, while contributing to their sustainability does not necessarily mean that sustainability or capacity is built. It has been shown that in many of the communities, the distribution of wealth is relatively inequitable and the high mobility and long hours worked by many people mean that the long term social interactions required to develop and sustain social trust may be inadequate to maximise the positive influence of high income.

The low income communities identified in this analysis are characterised by their remoteness. In other parts of this profile the same communities have been identified as having high proportions of Indigenous persons in their population with low levels of employment and low qualification and attendance levels. These characteristics are also associated with relatively poor health standards (see Table 4 and Table 5).

VET and command over goods and services

While there may be question marks about the value of VET in terms of the so-called 'knowledge economy' (Falk & Guenther 2002), participation in VET has been associated with improved employment opportunities and better access to higher paid jobs (CRLRA 2001b, Doyle *et al* 2000; NCVER 2002b). Given the high incomes associated with mining communities and the importance of VET to the mining industry it would be fair to deduce that VET contributes significantly to wealth and income, at least within this industry. However, it does not necessarily follow that across the savanna region as a whole, VET is associated with higher incomes. Those involved in the retail industry and CDEP participants, categorised as government employees by ABS, who are also likely to participate in VET are perhaps not as likely to see significant economic benefits from their participation in VET.

It may be of interest to see how VET qualifications and attendance correlate with income in the savanna region. Given that the industry and occupation profile of the savanna region differs markedly from the rest of Australia, the assumptions made generally about VET in Australia may not apply in the savanna region. In particular, the application of VET to government/CDEP employees and its economic value ma be worth investigating in more detail.

Physical environment

While the OECD's (1982) set of social indicators included housing conditions, accessibility to services and environmental nuisances as social concerns with associated indicators, ABS (2001c) focuses on housing as the primary concern within this band. The discussion here will include environmental/ecological and access issues but the main focus will be on housing because of the availability of relevant statistics within this category.

Environment

There are a number of quantifiable measures of well-being in terms of environmental issues. Environmental measures of well-being could include:

- Community perceptions of concern for environment,
- Expenditure on environment protection programs,
- Water and air quality measures, and
- Use of environmentally friendly products and recycling services.

These measures have been used and collated by ABS in various reports and datasets (ABS 2001d, 2002a, 2002k, 2003f) but generally report at a state and national level. Environment Australia (2002a, 2002b) has developed an extensive set of sustainability indicators that aim to measure national performance against the core objectives of the National Strategy for Ecologically Sustainable Development (NSESD). The 24 indicators across 21 values provide a comprehensive framework that relates environmental sustainability to a range of social and economic indicators (see detail: Table 69). Many of the indicators described relate directly to the eight OECD indicators used here (Education, Health, Command over goods and services).

For the purpose of this profile, the indicators used by ABS or Environment Australia are on the one hand too culture/site sensitive and cannot be applied to inter-regional or inter-community analysis, or on the other—they may indicate national trends and be of little value at a regional level. Other data, particularly those environmental data reported in the ABS (2002a) IRDB are largely out of date. The Tropical Savannas Cooperative Research Centre (TS-CRC) has identified a number of 'healthy savanna' indicators to reflect the needs of Indigenous, pastoral and conservation stakeholders across the region (Whitehead *et al* 2000). There is some concordance between these savanna indicators and the SoE (ASEC 2001, Environment Australia 2002a, 2002b) indicators. These include:

- Conformance to management plans, conducting environmental assessments,
- Water quality indicators, and
- Trends in special distribution of species in terms of biodiversity.

The TS-CRC analysis includes a set of socio-economic indicators relating to health of savannas, which include measures of the human impact on the tropical savannas environment. The relationship between environmental issues and community well-being in the tropical savannas has been largely unexplored by the CRC.

Extensive libraries of geospatial and quantitative ecological data are however available and warrant further investigation. Datasets and detailed analysis of environmental measures at a local/regional level are available through the Environment Resource Information Network[29] (ERIN) and include:

Ozestuaries database[30] (estuary assessment),

Australian Natural Resources Data Library[31],

Land disturbance, rivers and catchments[32], and

[29] http://www.ea.gov.au/erin/

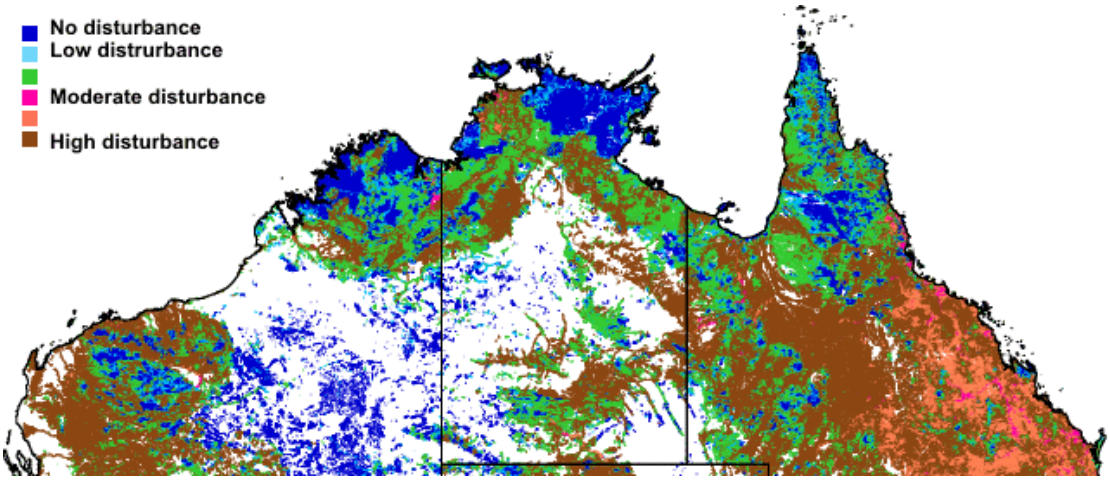
[30] http://www.ozestuaries.org/oracle/ozestuaries/

[31] http://adl.brs.gov.au/ADLsearch/

National Pollutant Inventory[33].

These data sources alone provide a range of regional data or maps of environmental indicators such as river and estuary health, land and river disturbance as well as pollutants and sources. One example of the data provided is shown in Figure 17, which maps a river disturbance index (RDI). Given that this indicator is a measure of environmental sustainability, the map points to greater possibility of sustainable use of environmental resources (water being a significant resource) in the more remote areas of Arnhem Land, the Kimberley region and Cape York Peninsula. The map shows that areas affected by mining and pastoral use have the highest level of disturbance.

Figure 17. Savanna region, River disturbance index (RDI) (Adapted from: ERIN 2001)



Access

The development of the ARIA index by the Department of Health and Aged Care (DHAC 1999, 2001) has meant that a convenient measure of accessibility and remoteness is available for all regions in Australia, down to Collection District (CD) level (See also Remoteness, page 13). ARIA measures remoteness in terms of access along a road network from 11,340 populated localities to four categories of service centres. Localities that are more remote have less access to service centres; those that are less remote have greater access to service centres (DHAC 1999). If, as OECD (1982) suggests, access to goods and services is an indicator of well-being, then the ARIA value is one measure of community well-being, that may indicate capacity. Table 43 and Table 44 show communities with highest and lowest ARIA values together with occupation stocks in terms of tradespersons and professionals and labourers (see Table 25). While the most accessible communities have above average stocks of tradespersons and professionals and below average stocks of labourers and related worker and it is true that stocks of professionals and tradespersons in the most remote communities are on average lower than for the accessible communities, there are some exceptions. Alyangula, Wyndham and Thursday Island have above average proportions of tradespersons and professionals.

Conversely, while there are some remote communities that have very high proportions of labourers, indicating low skill levels, this does not hold true for all the remote

[32] http://www.heritage.gov.au/anlr/code/ald.html

[33] http://www.npi.ea.gov.au/

communities. Thursday Island, Angurugu and Alyangula all have below average stocks of labourers. These data suggest that ARIA on its own does not indicate community capacity. While this data does suggest that as ARIA increases, capacity tends to decrease, local factors may contribute to higher levels of community capacity. Further, while geographical isolation, measured by ARIA, may restrict capacity, the presence of telecommunications infrastructure and the existence of adequate social infrastructure may act to mitigate the negative effects of distance.

Table 43. Savanna communities with lowest ARIA (most accessible) values (Source ABS 2002b)

Urban centre/Locality	State	2001 population	ARIA	Percent of population[34] as professional or trades-persons	Percent of population as labourers
Darwin	NT	71347	3	32.7%	5.9%
Pallarenda (L)	QLD	882	3.17	34.6%	2.0%
Palmerston	NT	20570	3.3	28.3%	6.3%
Keppel Sands (L)	QLD	339	3.37	29.5%	22.1%
Emu Park	QLD	2706	3.37	29.4%	16.2%
Yeppoon	QLD	10778	3.37	30.8%	10.0%
Deeragun	QLD	5631	3.38	26.7%	12.3%
Cungulla (L)	QLD	203	3.78	28.6%	19.0%
Alligator Creek (L)	QLD	976	3.78	27.4%	9.3%
Balgal Beach (L)	QLD	641	3.79	27.4%	10.2%

Table 44. Savanna communities with highest ARIA (least accessible) values (Source ABS 2002b)

Urban centre/Locality	State	2001 population	ARIA	Percent of population[35] as professional or trades-persons	Percent of population as labourers
Angurugu (L)	NT	758	12	25.6%	11.0%
Umbakumba (L)	NT	372	12	2.5%	58.3%
Kalumburu (L)	WA	339	12	13.5%	46.1%
Umagico (L)	QLD	253	12	10.1%	51.7%
New Mapoon (L)	QLD	326	12	7.8%	45.2%
Wyndham (L)	WA	787	12	29.6%	17.8%
St Pauls (L)	QLD	200	12	21.8%	32.7%
Thursday Island	QLD	2693	12	32.0%	8.7%
Alyangula (L)	NT	972	12	37.6%	10.0%
Milingimbi (L)	NT	992	11.88	25.7%	26.3%

[34] Percent of population with stated occupations

[35] Percent of population with stated occupations

There are other indicators of access that can be considered. For example, increasingly, access to quality telecommunication services (including mobile phone coverage) and Internet services are considered to be important to the well-being of communities (AECC 2002; BAG 2003; Hazzlewood 2001; Millar & Falk 2000; RTI 2002).

Figure 18 shows that while there are a large number of small communities currently receiving access to mobile phone technology the more remote and mostly Indigenous regions, particularly in the Northern Territory and Western Australia are not covered. Of 118 savanna urban centres and localities reviewed here, 92 currently have coverage, a further 5 expect to have coverage by mid 2004 and 21 do not currently have mobile phone (CDMA) coverage.

Figure 18. Access to Telstra CDMA, northern Australia (Source: Telstra 2002)

Housing

Housing is a fundamentally important indicator of a community's capacity, primarily because of the basic human need for shelter. ABS (2001c:214) states that:

> The quality of housing predominant within a neighbourhood contributes to the quality of the social environment. A poor standard of housing is often associated with problems in other areas of concern such as poverty and crime... Social capital is increased when people work co-operatively in providing suitable housing for those with special needs.

A number of measurements relating to housing may indicate housing's contribution to community well-being. OECD (1982) suggests that dwelling space is a key indicator. ABS (2001c) suggests a range of indicators such as affordability, home ownership rates, homelessness and costs associated with rent or mortgages. Increasing levels of home ownership may be associated with higher levels of community capacity, possibly because of the combined wealth retained within the community and possibly because of greater identification with the community among home owners. However, these assumptions may not always apply in all communities or regions.

There are some difficulties associated with interpreting ABS housing indicators for several reasons:

- Rent paid will depend to some extent on demand, on the availability of government/subsidised housing and on the values of properties available for private rental.

- The value or importance of home ownership differs from region to region based on cultural differences, seasonality of work (for example casual agricultural workers) as well as affordability differences.

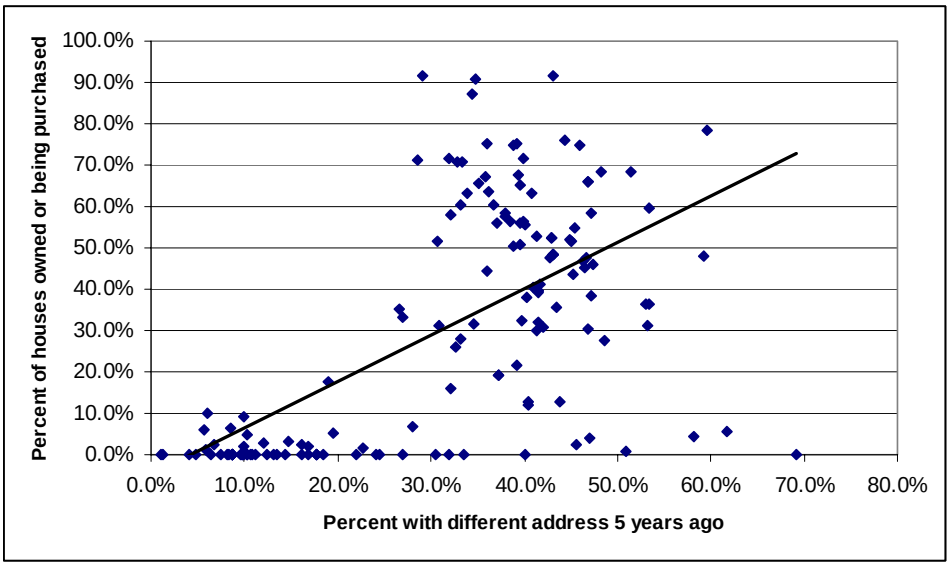
An analysis of housing trends in savanna SLAs yields some interesting trends, which are shown in Table 45. First, the table shows that home ownership tends to increase with household size in accessible areas. However in all other areas, the trend is reversed such that increases in household size are associated with decreases in home ownership. Third, home ownership tends to decrease with increasing remoteness.

Table 45. Household size and percent home ownership[36] by ARIA remoteness levels, Savanna SLAs 2001 (Source: ABS 2002b, 2003a)

Mean household size	Accessible	Moderately accessible	Remote	Very remote	Total
1-2	36.3%				36.3%
2-3	55.8%	53.2%	48.0%	50.5%	53.6%
3-4	57.6%	39.3%	36.0%	31.4%	47.0%
4-5			16.7%	6.3%	7.5%
5-6				1.7%	1.7%
6-7				1.7%	1.7%
All households	54.7%	51.7%	44.4%	31.9%	47.1%

Mobility is also associated with home ownership. Correlation analysis of savanna communities reveals that home ownership increases with the proportion of the population having a different address five years ago (see Figure 19). This finding suggests that home ownership is more likely in places where there are higher levels of population movement.

Figure 19. Home ownership in savanna communities compared to percent of population with different address five years ago (Source ABS 2002b)



[36] Home ownership includes those who own or are purchasing a home, as opposed to those households that are renting a home. The percentage is based on the proportion of all occupied houses either owned or being purchased.

Table 46 shows savanna communities with the highest levels of home ownership. The table shows that these communities are all in accessible or moderately accessible areas with below average Indigenous populations[37] and about average household sizes[38]. Mobility data show that this group of communities have an average 38.6% of the population with a different address 5 years ago. This is consistent with the relationship shown in Figure 19, which indicates that home ownership correlates positively with mobility. These communities have a combined intercensal population growth of 30%, compared with 6% for all savanna communities. The communities hold above average qualification stocks[39]. The capacity of these communities is high not just because of the home ownership levels (which is indicative of wealth), but also because the population is increasing, and because of the relatively high mobility levels, which suggest that external linkages are enhancing the quality of networks and hence, the social capital.

Table 46. Savanna urban centres and localities with highest levels of home ownership (Source ABS 2002b)

Urban centre/Locality	State	Percent Indigenous persons	ARIA	Percent of homes owned	Mean household size
Cungulla (L)	QLD	4.4%	3.78	91.8%	2.7
Alice River	QLD	1.8%	3.79	91.5%	3.8
Bohle Plains	QLD	0.3%	3.79	90.7%	3.8
Alligator Creek (L)	QLD	2.4%	3.78	87.4%	3.4
Balgal Beach (L)	QLD	3.4%	3.79	75.9%	2.8
Howard Springs	NT	5.5%	3.96	75.2%	3.5
Humpty Doo-McMinns Lagoon	NT	6.0%	3.96	75.1%	3.5
Keppel Sands (L)	QLD	1.8%	3.37	74.8%	3
Deeragun	QLD	5.1%	3.38	74.7%	3.8
Virginia-Bees Creek	NT	4.0%	3.96	71.7%	3.5

Table 47 shows those remote and very remote savanna communities that have the highest proportions of home ownership. These communities are notably different from the group shown in the previous table. All the communities are in Queensland. They have lower mean household sizes (consistent with Table 45). The proportion of Indigenous persons in the population tends to be higher than those in the previous list though it still tends to be below the savanna average with the exception of Merinda. Further analysis reveals that a number of the communities are in population decline. The exceptions are Kuranda, where the intercensal population jumped by 118% and Karumba, where population increased by 29%. The qualification stocks of these communities are a lot lower with an average of only 18.7% holding a post school qualification. The one thing about the two groups that is similar is the mobility data—an average of 37.9% had a different address five years ago. These data suggest that while currently high, many of this group of high home ownership communities show signs of weakness, declining population and relatively low qualification stocks. The strength of the stronger of these communities appears to be their status as regional

[37] Indigenous population is 15% of total savanna population

[38] Median household size of all UCLs is 3.6, mean household size is approximately 3.1.

[39] Average for group: 25.7%; average of all savanna: 23.1%

centres with a population base above 1000 people and some degree of industry diversity. For example, the industry profile of Winton shows a number of equally strong industry sectors: retail, accommodation, transport, health, government and agriculture—all of which employ about the same number of people.

Table 47. Remote and very remote savanna urban centres and localities with highest levels of home ownership (Source ABS 2002b)

Urban centre/Locality	State	Percent Indigenous persons	ARIA	Percent of homes owned	Mean household size
Merinda (L)	QLD	26.7%	6.22	70.7%	3.4
Collinsville	QLD	3.2%	6.22	67.6%	3.1
Karumba	QLD	2.1%	11.51	65.6%	2.8
Aramac (L)	QLD	4.6%	10.96	65.4%	3.5
Blackall	QLD	2.1%	10.97	63.4%	3.1
Kuranda	QLD	14.7%	7.93	63.0%	3.4
Barcaldine	QLD	7.4%	11	60.4%	3.3
Dimbulah (L)	QLD	5.9%	7.93	60.2%	3.2
Capella (L)	QLD	3.8%	6.32	58.5%	3.4
Winton	QLD	7.9%	11.49	58.2%	3.3

Table 48 shows the opposite end of the home ownership scale. These communities are predominantly remote and very remote with high proportions of Indigenous people, average household size almost double that of the first group and 0% home ownership. A closer look at the data for these communities reveals high dependency ratios, low income, very low qualification stocks (7% of the population with post school qualifications) and very low levels of mobility (18% with different address five years ago). All the communities have a population less than 1000 and below average population growth (6%). This analysis suggests that capacity in these community is low at a number of levels.

Table 48. Savanna urban centres and localities with lowest levels of home ownership (Source ABS 2002b)

Urban centre/Locality	State	Percent Indigenous persons	ARIA	Percent of homes owned	Mean household size
Pirlangimpi (L)	NT	87.8%	10.35	0.0%	4.7
Bamaga (L)	QLD	82.4%	10.99	0.0%	5.3
Lockhart River (L)	QLD	61.0%	10.82	0.0%	5.5
Milikapiti (L)	NT	86.0%	10.35	0.0%	5.6
Umagico (L)	QLD	93.7%	12	0.0%	5.8
New Mapoon (L)	QLD	93.6%	12	0.0%	5.9
Belyuen (L)	NT	94.9%	5.27	0.0%	6.2
Injinoo (L)	QLD	96.7%	10.99	0.0%	6.3
Beagle Bay (L)	WA	92.3%	10.75	0.0%	6.4
Bardi (One Arm Point) (L)	WA	95.2%	10.75	0.0%	6.5

VET and the physical environment

It has been noted previously that the flexible nature of VET means that it can be applied easily to remote and rural communities. Participation in VET is also less affected by remoteness than for universities (see Table 8). Therefore accessibility is not so much of an issue for potential VET students as it might be for higher education.

It has already been noted that VET is widely used in remote areas, with 58% of VET students coming from rural and remote areas of the Northern Territory (DEET 2002). This paper does not attempt to identify the distribution of VET students in regional areas, but this may be of interest with a more targeted project.

Relatively little is understood about the contribution VET makes to environmental sustainability. There are few industry Training Packages that relate directly to addressing environmental issues. The Water Industry and Local Government Training Packages do have indirect linkages with issues of environmental planning and management but there is considerable scope for further application of VET to issues of ecological sustainability, especially where environment and heritage management are important in the savanna region.

VET contributes directly indirectly to housing needs. The direct impact is by providing skills to the building and construction industry. Indirectly, VET as a means to accessing employment and command over goods and services, allows people to access quality housing services.

Social environment

The strength of a community's social environment is one indicator of its capacity. Another way of saying this is to suggest that community capacity will be higher if social capital is higher. The linkages between community capacity and social capital have already been discussed (see Social capital and community capacity, page3) but the purpose of this section is to identify quantitative indicators of aspects of social capital and to provide a context for these indicators in terms of the social environment of the savanna region.

There are a number of indicators under the broad heading of 'social environment'. While the OECD (1982) chose suicide rate as a primary indicator of well-being under this heading, the assumptions underlying this choice are that lower suicide rates indicate a better social environment in which individuals want to live. It follows therefore that in places where suicide rates are lower, social attachment is higher. It also follows that where social attachment is higher, social capital will be higher and in turn community capacity may also be higher (ABS 2002l).

The underlying reasons for a 'better' social environment have much to do with the nature of family and community relationships, and the sense of belonging or identity that goes with that. ABS (2001c) considers the issues of social environment under the heading of 'family and community' and suggest a range of indicators that contribute to social well-being under this heading. These include:

- Divorce rates
- Family structure
- Child care
- Social networks; and
- Voluntary work

A number of potential data sources are suggested, including Census, the Socio-Economic Index for Areas (SEIFA) (ABS 1998b), Child Care surveys (ABS 2003d) and Time Use surveys (ABS 1998a). More specific indicators of social attachment are discussed by ABS (2002l) and include:

- Suicide rates
- Persons living alone
- Participation in sport
- Homelessness.

It has recently been suggested that among other things the cause of suicide is related to spirituality[40], and the purposefulness that goes with a belief system (Martin 2002). While religious identification is not the same as spirituality it is generally accepted that there is an overlap between the two. This may point to the possible use of religious affiliation as another indicator of social attachment.

These variables do not occur in either a vacuum or an homogenous social environment. Consideration of some of the variables listed above will be given here, after a review of some of the demographic variables, which shape the context for social attachment within savanna communities. This context includes aspects of population change, age profiles and Indigenous population.

Population

Population, population density and population change form an important backdrop to the social environment. Areas with higher population and higher population density usually have access to a greater range of services and the possibility of building extensive social and extended family networks is greater than in areas of sparse population distribution. Where population declines occur these changes are often associated with declining service levels, particularly in areas where rural industries predominate (NEIR/ALGA 2001). The converse does not necessarily apply, particularly in the savanna region where high population growth rates have been recorded in indigenous regions. For example, in the ten years to 2001 in the Northern Territory the Indigenous population grew at a rate 27% faster than the non-Indigenous population. In Western Australia the Indigenous population grew 40% faster than the non-Indigenous population[41] (ABS 2003c). However, large increases in population do create opportunities for communities (because of an expanding base of skills, social interactions, new ideas etc) that are otherwise a problem for declining communities.

[40] http://www.suicidepreventionaust.org/new_conference.htm

[41] These figures should be treated with some caution as they rely on self-identification. According to ABS about one quarter of the growth in Indigenous population is attributable to increased propensity to identify as Indigenous (ABS 2002m).

The picture given by Figure 20 reflects these changes. The map shows greatest intercensal population growth rates in areas of the Kimberleys, Arnhem Land, Gulf and Cape York areas. Declines have occurred in several SLAs of central Queensland and rural parts of the Northern Territory.

Figure 20. Intercensal (1996-2001) population change as percent based on 1996 SLA population: SLAs in the savanna region, August 2001 (Source: ABS 2003c)

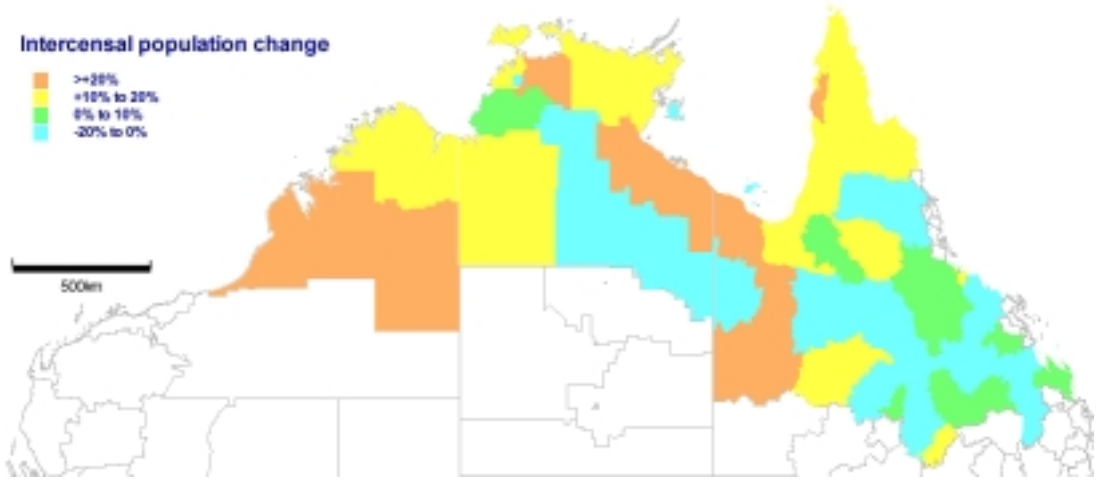


Table 49 tabulates the results shown in the map, showing changes for the broad regions. While the average population growth across the entire savanna region was 7.0% in the five years to 2001 all the Queensland regions listed showed below average growth, while the Northern Territory showed growth slightly above the average and the Kimberley region of WA showed the fastest growth rates.

Table 49. Population change in savanna regions (Source: ABS 2003a)

Savanna SLAs included in Statistical Division:	State	2001 population	1996 population	Percent change
Kimberley	WA	41969	33019	27.1%
Darwin	NT	93333	85705	8.9%
Northern Territory – Bal	NT	66950	61852	8.2%
Northern	QLD	188153	176170	6.8%
Far North	QLD	45432	43379	4.7%
Fitzroy	QLD	53468	51551	3.7%
Central West	QLD	12310	12034	2.3%
North West	QLD	39021	38427	1.5%
Mackay	QLD	19013	20707	-8.2%
Grand Total		559649	522844	7.0%

Table 50 shows how population growth has occurred by remoteness areas by state/territory. The analysis shows that population growth in Queensland was greatest in accessible areas, while in the Northern Territory growth was almost as high in the very remote regions as it was in the accessible areas. The high growth rates in remote areas is consistent with the earlier observations about faster growth rates among Indigenous people (see also Table 54).

Table 50. Population growth of savanna SLAS by remoteness and state/territory (Source ABS 2003a)

Remoteness[42]	Queensland	Western Australia	Northern Territory	Population growth all areas	2001 Population
Accessible	10.1%		9.9%	10.0%	276782
Moderately accessible	-5.3%		4.2%	-4.9%	54718
Remote	-0.8%		0.7%	-0.5%	107507
Very remote	7.7%	27.1%	9.4%	14.2%	120642
Total	4.4%	27.1%	8.6%	7.0%	559649

The gender distribution of the population of the savanna is shown in Table 51, which shows an increasing proportion of males in the population with remoteness. This is most likely a function of the industry mix such that occupations, particularly in the mining industry, are dominated by males.

Table 51. Male and female population by ARIA remoteness designation (Source ABS 2002b)

ARIA Remoteness	Males	Females	Total population	Percent males
Accessible	140737	136045	276782	50.8%
Moderately accessible	28865	25853	54718	52.8%
Remote	56985	50522	107507	53.0%
Very remote	64235	56407	120642	53.2%
Grand Total	290822	268827	559649	52.0%

[42] Based on 1999 ARIA scale

Table 52 and Table 53 show communities with low and high population growth. The reasons for the declines/increases are probably as important for community capacity as the numerical changes. The underlying assumption presented earlier in this section is that growing communities have greater opportunities than declining communities. The communities listed in the first table are particularly vulnerable—in many cases further declines will threaten the medium term viability of these communities.

Table 52. Savanna urban centres/localities with the largest rates of intercensal population decline (Source ABS 2003a)

Savanna urban centres and localities with greatest population decline	State	2001 population	1996 population	Percent change
Timber Creek (L)	NT	300	566	-47.0%
Gunyangara (L)	NT	260	368	-29.3%
St Pauls (L)	QLD	200	283	-29.3%
Dysart	QLD	2463	3444	-28.5%
Glenden (L)	QLD	977	1329	-26.5%
Bluff (L)	QLD	317	431	-26.5%
Mataranka (L)	NT	499	667	-25.2%
Merinda (L)	QLD	210	270	-22.2%
Alyangula (L)	NT	972	1231	-21.0%
Looma (L)	QLD	287	359	-20.1%

Three of the top four population growth areas listed in Table 53 could be described as commuter areas on the urban fringes of Darwin, Cairns and Townsville. Increasing property prices in these regional cities fuels the growth in the outer urban regions. The industry mix of these communities is increasingly diverse with a strong focus on the retail sector. With the exception of Broome and Fitzroy Crossing, the other communities are marked by high proportions of children in the population suggesting high birth rates. In terms of capacity for economic growth the list is mixed. The larger centres have a balanced mix of industries that contribute to a sustainable local economy. The smaller communities tend to be reliant on government employment and the high birth rates place additional pressure on already strained community infrastructure.

Table 53. Savanna urban centres/localities with the largest rates of intercensal population growth (Source ABS 2003a)

Savanna urban centres and localities with greatest population decline	State	2001 population	1996 population	Percent change
Deeragun	QLD	5631	2314	143.3%
Kuranda	QLD	1456	666	118.6%
Daly River (L)	NT	621	349	77.9%
Palmerston	NT	20570	12233	68.2%
Gapuwiyak (L)	NT	668	447	49.4%
Doomadgee	QLD	1119	754	48.4%
Broome	WA	15906	11368	39.9%
Borroloola (L)	NT	769	551	39.6%
Bamyili (Barunga) (L)	NT	346	249	39.0%
Fitzroy Crossing	WA	1507	1147	31.4%

Indigenous profile

Figure 21 shows the distribution of Indigenous persons across the savanna in terms of the proportion of total population. As might be expected from previous discussion the highest proportions of Indigenous persons in the population are in the Kimberleys, rural Northern Territory, the Gulf region and the Cape York region—these areas correspond to the most remote areas of the savanna. Lower proportions of Indigenous persons are found in the more accessible regions around Darwin and in central Queensland. The scale of the map does not show enough detail to account for variations within the region, especially in remote mining communities like Jabiru, Nhulunbuy and Weipa where Indigenous persons are not as highly represented.

Figure 21. Proportion of Indigenous persons: SLAs in the savanna region, August 2001 (Source: ABS 2002b)

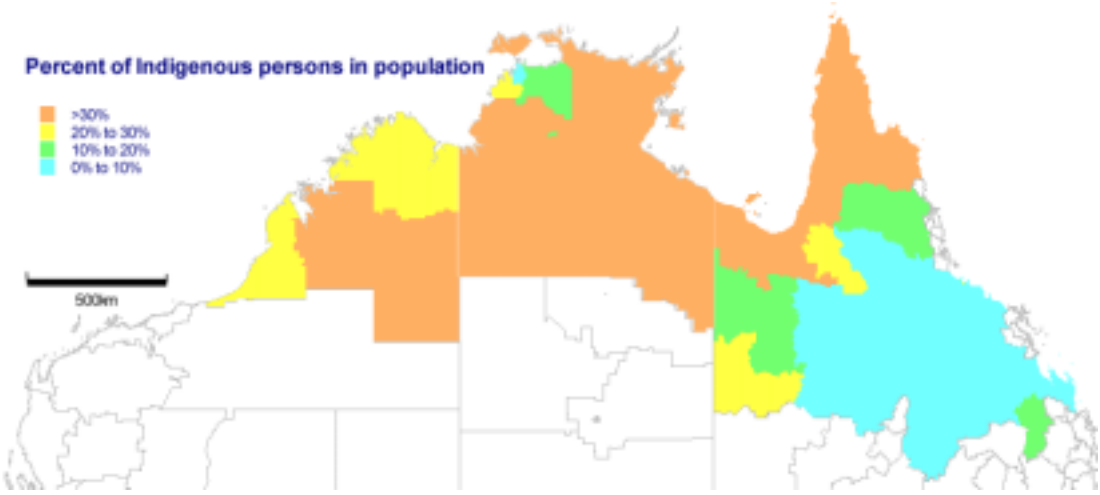


Table 54 summarises the data shown in the map by remoteness and state/territory. It is clear from the table that Indigenous persons make up an increasing proportion of the population with increasing remoteness. Some caution needs to be take when interpreting comparative Indigenous population data because of statistical counting difficulties (ABS 2002m).

Table 54. Percentage of Indigenous persons in population[43]: SLAs in the savanna region, August 2001 (Source: ABS 2002b)

ARIA Remoteness	Queensland	Western Australia	Northern Territory	Grand Total
Accessible	5.7%		10.0%	8.1%
Moderately accessible	6.7%		27.7%	11.3%
Remote	7.3%		27.3%	14.0%
Very remote	23.1%	40.3%	61.3%	35.2%
Average of all SLAs	11.5%	40.3%	20.5%	16.3%
Indigenous population 2001	35353	13556	35032	83941

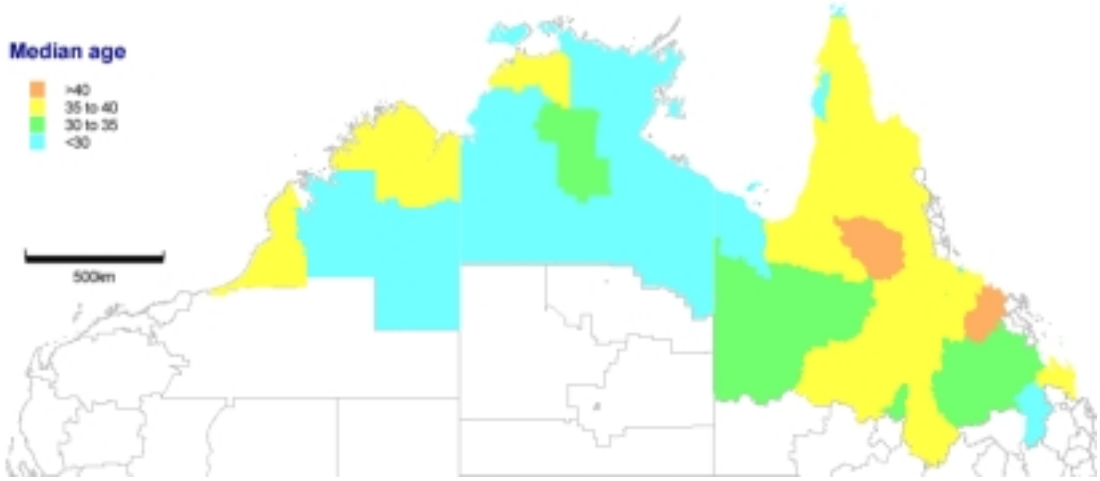
[43] The average here weights each SLA equally.

Age profile

The age profile of a community is significant because it reflects a number of social attributes. For example high proportions of older or younger people in a community mean that the number of dependents is higher. The economic output is reduced and additional infrastructure, particularly in the areas of health and education needs to be provided to ensure the well-being of the community (see also Dependency ratio, page 48). Changes across age groups are also significant. For example, where the profile dips significantly in the 15-24 age group, it suggests low youth retention. Socially, there is an impact on a community where significant slices of a normal population demographic profile are missing. The absence of youth for example, leaves a population without a significant pool of labour and leaves a community with 'older' ideas with little opportunity for younger people to take up leadership positions.

Figure 23 maps median age of the SLA populations across the savanna. The youngest profiles are shown in rural and remote areas of the Northern Territory, parts of the Kimberley region of Western Australia and scattered SLAs across Queensland. The map largely resembles the patterns shown in the Figure 21 for Indigenous people. Analysis of the data reveals a moderate correlation between the proportion of Indigenous persons in the population and the proportion of 0-24 year olds in the population (r=.486).

Figure 22. Median age of the population: SLAs in the savanna region, August 2001 (Source: ABS 2002b)



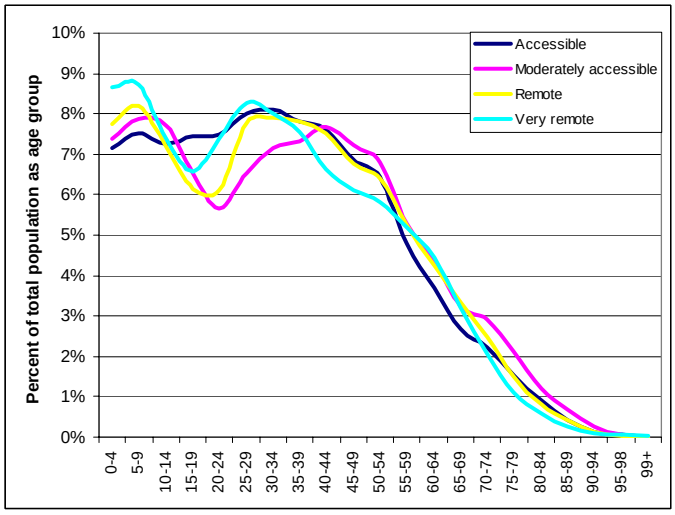
The age profile for each state/territory is summarised in Table 55, which shows that for each age range up to 44 years there are higher proportions in the Northern Territory. The proportion of retired people in the Northern Territory is approximately half that in Queensland. Placed in the context of Australia as a whole the age profile of the savanna region is significantly younger than for the whole of Australia. All other things being equal this should place relatively greater pressures on education infrastructure and less pressure on health and aged care infrastructure.

Table 55. Demographic profile by major age groups and savanna SLAs by state/territory (Source: ABS 2002b)

Age group	Queensland	Western Australia	Northern Territory	Australia
0-4	7.5%	7.8%	7.9%	6.6%
5-14	15.2%	13.9%	15.7%	14.1%
15-24	14.0%	12.7%	14.3%	13.5%
25-44	30.0%	30.7%	33.1%	29.5%
45-64	22.4%	23.6%	21.0%	22.8%
65+	9.7%	8.3%	4.9%	12.5%
Total[44]	98.7%	96.9%	96.9%	98.9%

Figure 23 shows the age profile graphically by age group and level of remoteness. The interesting feature of this chart is the difference that occurs in the 0 to 24 year age groups. Note that in the accessible areas there is not a 'dip', which is indicative of loss of youth. The biggest and most sustained 'dip' occurs for regions in the moderately accessible areas, where the chart reaches a second peak at 44 years and then declines in a way that is consistent with other levels of remoteness. Analysis of remote communities reveals that while non-Indigenous communities exhibit the typical dip associated with the loss of youth the same does not apply to Indigenous communities, which show a consistent decline through every age group (see Figure 28). The chart for very remote SLAs reflects a blend of the typical non-Indigenous communities (mainly mining towns) and Indigenous communities of the region. The consistent decline is consistent with higher mortality rates associated with Indigenous people.

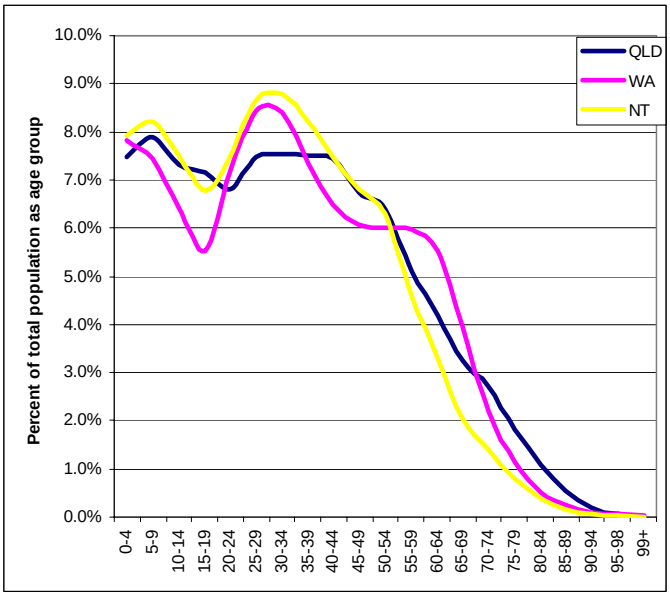
Figure 23. Age profile of savanna SLAs by level of remoteness



[44] Excludes overseas visitors

Figure 24 shows differences in the age profile between savanna SLAs by state/territory. Of note is the Queensland profile, which shows almost no dip in the youth age groups. By contrast, the loss of youth and the return of young adults to the population is marked in the savanna SLAs of the Northern Territory and Western Australia. The trends in the age groups up to about 40 years are to some extent a reflection of migration patterns—it is likely that youth leave the Northern Territory and Western Australia at about age 14 for education. By age 25 they are returning for employment opportunities.

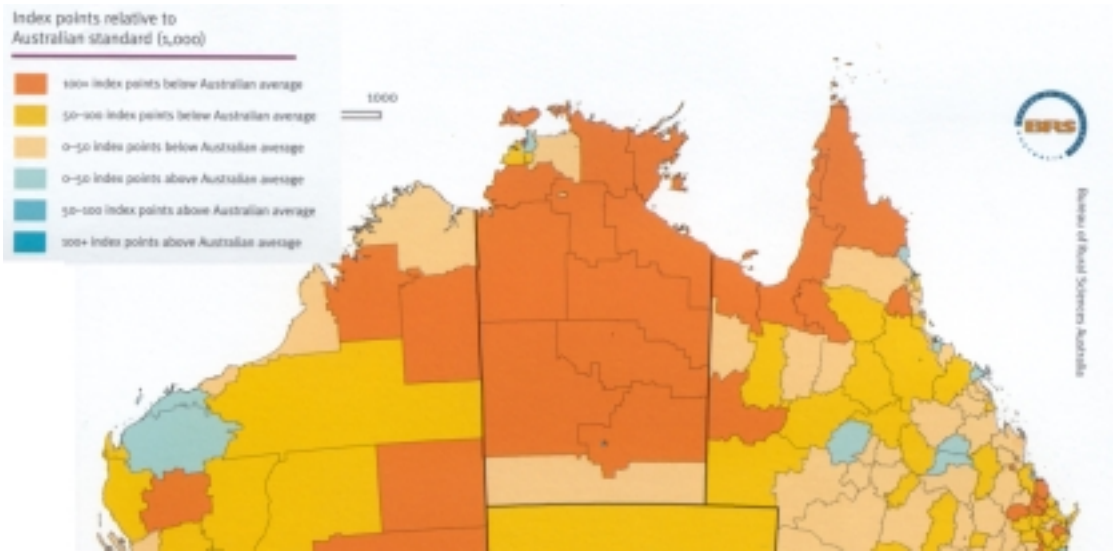
Figure 24. Age profile of savanna SLAs by state/territory



Socio-Economic Index For Areas (SEIFA)

The Socio-Economic Index for Areas (SEIFA) provides a quick indicator of social advantage or disadvantage. The Index of Relative Socio-Economic Disadvantage, mapped in Figure 25, is derived from attributes such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations (ABS 1998b:3). This map is very similar to the Indigenous profile map shown in Figure 21, suggesting that the areas of greatest disadvantage are those in areas where there are high proportions of Indigenous people.

Figure 25. Degree of Socio-economic disadvantage (SEIFA) 1996, Northern Australian SLAs (Source BRS 1999:95)



Suicide

Up to date suicide data for savanna regions is not readily available. The data shown in Table 56 is somewhat old but it does give regional comparisons to Statistical Subdivision (SSD) level. The figures shown are designed to be comparable from region to region such that a higher value indicates a relatively higher suicide with 100 being a baseline. The presence of a prison in the Palmerston-East Arm SSD explains to some extent the high rate. In the case of the East Arm SLA almost the entire SLA is made up of the prison population.

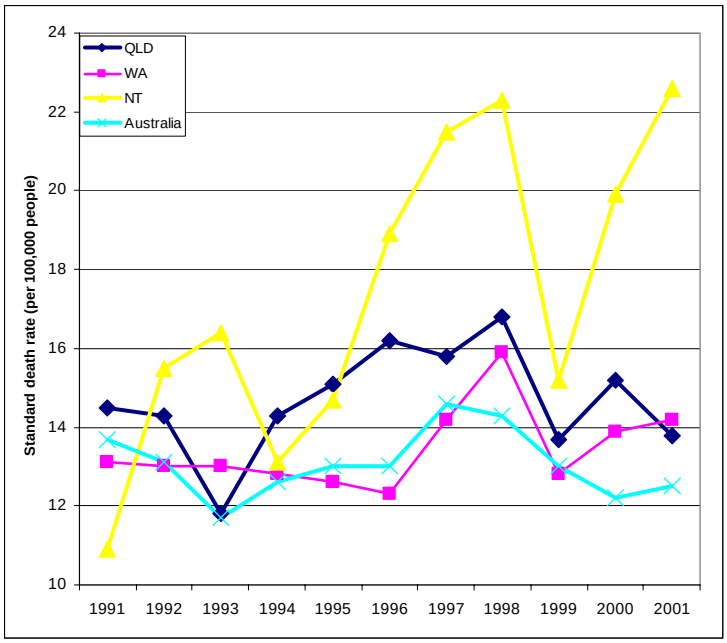
Table 56 Standardised Mortality Ratio: Suicide rate[45] for Savanna regions, 1992 (Source ABS 2002a)

Statistical Subdivision (SSD)	State	Standardised Mortality Ratio: Suicide (rate)
Darwin City	NT	112
Palmerston-East Arm	NT	250
Darwin Rural Areas	NT	67
Bathurst-Melville	NT	227
Alligator	NT	68
Daly	NT	Not available
East Arnhem	NT	177
Lower Top End NT	NT	80
Barkly	NT	132
Fitzroy SD Bal	QLD	107
Central West	QLD	166
Mackay SD Bal	QLD	Not available
Townsville City Part A	QLD	Not available
Thuringowa City Part A	QLD	84
Northern SD Bal	QLD	Not available
Far North SD Bal	QLD	Not available
North West	QLD	157
Ord	WA	93
Fitzroy	WA	79

[45] Standardised mortality ratio (SMR) is the ratio of the actual number of deaths in the population under study and the number of deaths which would have occurred if the population under study had experienced the age-specific death rates of the standard population.

The chart shown in Figure 26 shows interstate/territory comparisons for the whole state/territory for suicide rates standardised for comparability. While for the states and the nation there appear to be cyclical fluctuations over the period, with an overall negligible change, this is not the case for the Northern Territory. In the Territory, the suicide rate appears to have doubled in the 10 year period.

Figure 26. Standardised death rates[46] for suicide by state, 1991 to 2001 (Source ABS 2003h)



Lone person households

The rationale for the use of lone person households as an indicator of social attachment relates to families' role within the structure of communities. Using the ABS (2001c:65) model of social attachment it can be argued that lone persons are less likely to have a range of social transactions with their 'core community'. The 1997 Time Use Survey (ABS 1998a) showed that people living alone were increasingly likely to spend time alone. While to some extent the informal and formal networks of the wider community may replace those of the core family unit, there is evidence to suggest that people who spend more time alone are more likely to be socially isolated. A definition of social isolation is offered by ABS (1999a):

> Although definitions vary, social isolation is generally understood to occur when a person has low levels of social participation and a perceived inadequacy of social activity. This can happen when a person spends a lot of time alone and little time in social contact with family, friends and other people. Social isolation is associated with feelings of loneliness, boredom and lower satisfaction with life.

While it is acknowledged here that living alone does not on its own indicate social isolation or a lack of social attachment the case for the use of lone households is built on the increased probability that social attachment will decrease with increasing proportions of lone households in a community. In terms of community capacity the strength of a community with high levels of core community social interactions lies in

[46] Standardised death rate per 100,000 persons. Standardised to the estimated mid year 1991 Australian population.

the strength of the community's 'bonding ties' (Woolcock 1999) and the resulting mutual support and social identification that arises.

Table 57 shows that generally the proportion of lone person households decreases with remoteness. As an indicator of social attachment the table suggests that social attachment is highest in the very remote communities of the Northern Territory and lowest in the moderately accessible and remote regions of the Northern Territory. The data for Queensland shows a relatively small variation between accessible and very remote regions. As might be expected there is a negative relationship between household size and the proportion of lone households—the proportion of lone person households decreases with increasing household size (r=-.65).

Table 57. Percent of lone person households in savanna SLAs by remoteness (Source: ABS 2002b)

Remoteness	Queensland	Western Australia	Northern Territory	Total
Accessible	24.5%		25.8%	25.3%
Moderately accessible	23.5%		30.3%	25.0%
Remote	22.0%		28.2%	24.1%
Very remote	22.2%	20.7%	16.2%	20.5%
Total	23.4%	20.7%	24.6%	23.8%

Table 58 shows communities with lowest proportions of lone households. Based on the assumptions of the foregoing discussion it could be argued that these communities have the highest levels of social attachment, particularly at a core community level. As might be expected, the household size of most of these communities, is relatively high. Most of the communities are Indigenous and remote or very remote, but it is notable that there are two mainly non-Indigenous communities in this list. On average these communities exhibit low capacity on a range of other measures: low income, low levels of home ownership, low qualification stocks, low mobility and low levels of VET/professional occupation stocks. However, the high level of social connectedness indicated here is a strength that the communities can draw on to build capacity.

Table 58. Savanna communities with lowest proportion of lone households (Source ABS 2002b)

Urban centre/Locality	State	Percent Indigenous persons	ARIA	Percent of lone households	Mean household size
Looma (L)	WA	96.2%	11.82	0.0%	7
Alice River	QLD	1.8%	3.79	3.7%	3.8
Angurugu (L)	NT	95.1%	12	4.3%	7.9
La Grange (L)	WA	94.1%	10.75	4.7%	7.3
Doomadgee	QLD	87.7%	11.58	6.3%	8.3
Umbakumba (L)	NT	94.6%	12	6.5%	9
Belyuen (L)	NT	94.9%	5.27	7.0%	6.2
Warruwi (L)	NT	96.7%	10.4	7.4%	7.8
Lajamanu (L)	NT	88.1%	11.51	8.2%	8.8
Bohle Plains	QLD	0.3%	3.79	8.2%	3.8

Table 59 shows communities with the highest proportion of lone households. The one thing in common with Table 58 is the level of remoteness of the communities. Most are either remote or very remote. The average household size of these communities is generally below the savanna average[47] and with one exception, predominantly non-Indigenous. The industry base of these communities is mixed—a combination of mining, agriculture, tourism, retail and health care. Income levels, qualification stocks and VET/professional skills in these communities is generally above average indicating high community capacity across a range of measures. However, what the lone household data suggests is that these communities are vulnerable because of the possibility that they exhibit low levels of social attachment.

Table 59. Savanna communities with highest proportion of lone households (Source ABS 2002b)

Urban centre/Locality	State	Percent Indigenous persons	ARIA	Percent of lone households	Mean household size
Pine Creek (L)	NT	9.5%	8.21	42.6%	3.2
Mataranka (L)	NT	5.4%	9.79	39.4%	3.3
Dimbulah (L)	QLD	5.9%	7.93	36.6%	3.2
Croydon (L)	QLD	30.4%	11.33	35.6%	3.4
Arcadia Bay (L)	QLD	0.0%	5.44	35.3%	2.5
Aramac (L)	QLD	4.6%	10.96	33.9%	3.5
Lockhart River (L)	QLD	61.0%	10.82	33.3%	5.5
Karumba	QLD	2.1%	11.51	33.2%	2.8
Blackall	QLD	2.1%	10.97	33.1%	3.1
Julia Creek (L)	QLD	8.4%	10.28	32.8%	3.3

There are significant limitations with the use of lone household data as an indicator of capacity. While the data may suggest the level of social attachment at the core community level, the data does not indicate the level of wider community transactions that take place, which are related to the 'bridging ties' associated with cooperation and social trust at a broader community level. In terms of external networks or 'linking ties' necessary for building social capital (Woolcock 1999), the close knit nature of many of the communities identified, may work against building social capital as has been shown in other Australian communities (Falk & Guenther 2000).

VET and the social environment

Participation in VET has been shown to influence perceptions about social attachment. CRLRA (2001b:113) found a number of ways that VET contributed to the social environment:

- VET programs can be an effective part of a strategy to address social issues such as suicide, domestic violence and racial tension.

- VET programs can form an integral part of community / capacity building projects.

- Participation in programs has the capacity to improve self-esteem, self confidence and consequently improves social attachment.

- Participation in programs was also described as self-empowering and resulted in increasing value in a family and community organisation environment.

[47] Average household size of all savanna urban centres and localities is 4.8.

> - VET has the capacity to break down social divisions that exist in communities because of the bridging links that are built between diverse social groups.

Because of the longstanding emphasis on VET as a purely vocational tool, many of these benefits have been largely unexplored. Given also that VET provider/community partnerships are most effective at producing community-oriented outcomes (Kilpatrick & Guenther 2003) it would be fair to suggest that in savanna communities the social benefits of VET are potentially significant and warrant further investigation. Many of these benefits are only discovered through qualitative research at a local level. The statistics reviewed in this section only paint a small part of the picture relating to issues of the social environment.

Personal safety

Personal safety, as an indicator of social well-being, is related to risk of injury, perceived threats to personal safety (OECD 1982) and criminal activity (ABS 2001c). The relationship between personal safety and community capacity is such that not only are higher levels of crime associated with reduced capacity, but the fear of personal safety also has a negative effect on capacity:

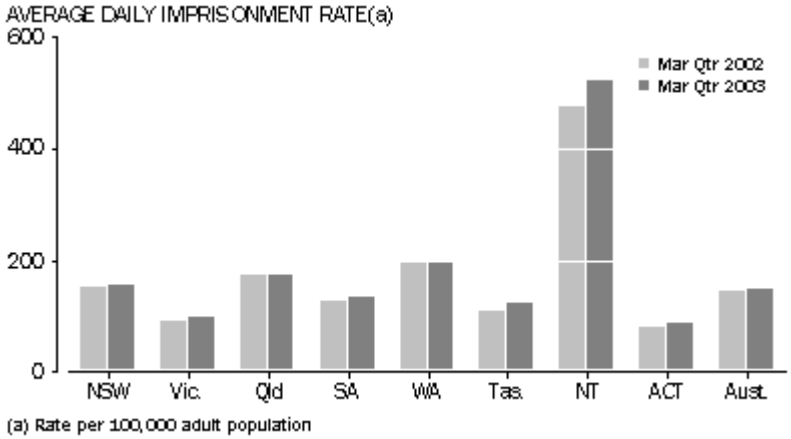
> Beyond the financial costs to communities, high rates of crime can affect community interaction and encourage the concentration of disadvantage and deprivation. Perceptions of corruption or bias in the criminal justice system, or rumours of ill-treatment of offenders by the police force or judiciary, can cause demoralisation within a community (ABS 2001c:243).

There is also a relationship between trust as a component of social capital and feelings of security. In a community where trust is evident, more of the community's capacity is directed at building stocks of social, economic and human capital than controlling behaviours of citizens that are outside the social norms and protecting the status quo (Warren 1999:2). Conversely, research has shown that the most corrupt countries have the least trusting citizens (Uslaner 2003, Knack & Keefer 1997). Within Australia, research has confirmed that, consistent with findings of the World Values Survey, people who are less trusting generally are also more likely to feel insecure (Falk & Guenther 2000, Hughes & Bellamy 1998).

Imprisonment rates

ABS reports data relating to criminal activities annually (ABS 2003g) and incarcerations quarterly (ABS 2003i). These data are reported to state and territory level. Figure 27 shows average daily imprisonment rates by state and territory. The outstanding feature of this chart is the high level of imprisonment rates in the Northern Territory, approximately three times the rate of other jurisdictions and which has continued to increase. Interstate comparability is made more difficult by different laws between states and territories and varying degrees of severity for sentencing, but this data suggests that levels of security and safety are lower in the Northern Territory than in other parts of Australia.

Figure 27. Average daily imprisonment rate, March quarter 2003, (Source ABS 2003i)



Victims of crime

The results shown in Table 60 for victims of crime generally confirms the above assessment. The rates of homicide and assaults are significantly higher in the Northern Territory than in other areas. The rates for robbery and other forms of theft are however, not the highest among all the states and territories.

Table 60. Victims by offence category-2002, rate per 100,000 persons (Source ABS 2003e)

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUST
Homicide and related offences	5	4	6	5	5	2	13	2	5
Assault	1201	366	563	1087	792	767	1660	613	810
Sexual assault	97	54	128	107	84	51	156	56	91
Kidnapping/abduction	7	2	2	2	2	2	2	3	4
Robbery	176	65	55	107	102	29	48	65	106
Blackmail/extortion	1	2	2	4	2	-	np	-	2
Unlawful entry with intent	2119	1455	1841	2171	3186	1565	2806	1961	2001
Motor vehicle theft	625	592	427	737	544	525	381	630	575
Other theft	3180	2908	3149	5202	5093	2752	4051	3143	3448

Because of the difficulties associated with obtaining public records relating to community crime and safety, in this profile it is not possible to draw conclusions about regional differences as they apply to savanna communities.

VET and personal safety

The direct link between participation in VET and personal safety is not conclusive. Qualitative research conducted by CRLRA (2001b) demonstrates that of all the bands of well-being, the relationship between VET and feelings of personal safety are the weakest. However the indirect benefit of VET to feelings of personal safety arise through the networks that are established both within and outside a community. The cooperation and trust that develops as a result of joining in extended social networks as a result of participating in VET may also influence individuals' perceptions of safety. The link between trust, feelings of personal safety and VET is something that

could be explored in more detailed in a more detailed, qualitative study of savanna communities.

Synthesis

The foregoing analysis and discussion have drawn together a number of potential indicators identified from literature and classified them according to their fit to one of the eight bands of community well-being. These indicators are summarised in Table 61, which shows 22 measures of well-being across the eight bands. Most of these indicators are readily available down to the urban centre/locality (UC/L) level.

Table 61. Summary of well-being indicators and geographic availability

Band	Community well-being indicator used	Available for:
Health	Infant mortality Self-assessed health status	SLA Remote/non-remote regions
Education and learning	Attendance at institutions Qualifications	UC/L UC/L
Employment and quality of working life	Labour force participation Occupations	UC/L UC/L
Culture and leisure	Working hours Mobility	UC/L UC/L
Command over goods and services	Dependency ration High income Low income	UC/L UC/L UC/L
Physical environment	Accessibility (ARIA) Land disturbance CDMA coverage Home ownership	SLA Regions (mapped) Regions (mapped) UC/L
Social environment	Population change Population age SEIFA Lone person households Suicide	UC/L UC/L SLA UC/L State / region
Personal safety	Imprisonment rates Victims of crime	State State

A number of factors that are associated either positively or negatively with many of these factors have also been identified and discussed. These include:

- Indigenous status,
- Gender differences,
- Regional differences in industry of employment,
- Size of businesses / number of employers,
- Size of communities,
- Level of remoteness; and
- Demographic variables.

For some indicators there is a clear relationship between these factors and the measure of well-being. These factors and the resulting correlations with measures of well-being will contribute to an understanding of why communities have higher or lower capacity. However, the purpose of this profile is simply to identify communities that exhibit signs of high or low community capacity on the basis of the indicators chosen.

To this end, the data used in this paper is used in a matrix of savanna communities and capacity indicators.

High and low capacity communities

Table 62 and Table 63 show a synthesised list of low and high capacity communities on the basis of 17 out of 22 measures discussed previously in this paper. Each asterisk in the table indicates that according to the measure, the community was identified either explicitly or implicitly as a high or low capacity community. A summary of the basis of their selection is made in Table 70. The outstanding feature of the table of low capacity sites is that almost all are remote and with the exception of two places, all are primarily Indigenous communities. While these communities have been identified as 'low capacity' centres, they do tend to have some strengths:

- Few of the communities are declining significantly (in terms of population)
- The RDI tends to be low indicating a sustainable environment
- Suicide rates are not high
- Leisure time is adequate
- Dependency ratio is not among the highest.

However the challenge for these communities tends to lie in the areas of health, education, employment, income, and access to services.

Table 62. Synthesised list of localities and urban centres with lowest capacity on the basis of 17 indicators of community well-being.

Urban centre/locality	Infant mortality	Attendance at institutions	Qualifications	Labour force participation	Occupations	Working hours	Mobility	Dependency ratio	Income	Accessibility (ARIA)	River disturbance (RDI)	CDMA coverage	Home ownership	Population change	SEIFA	Lone person households	Suicide
Umbakumba (L)	*	*	*		*		*		*	*		*			*	*	
Looma (L)		*	*		*		*		*			*		*	*	*	
Angurugu (L)	*		*	*			*		*	*					*	*	
Milingimbi (L)	*			*			*		*	*		*			*		
Minjilang (L)		*	*	*	*			*				*			*		
Galiwinku	*	*		*					*			*			*		
Warruwi (L)			*	*					*			*			*	*	
Bardi (One Arm Point) (L)			*		*				*			*	*				
Belyuen (L)		*	*		*								*			*	
New Mapoon (L)					*			*		*			*		*		
Port Keats				*				*	*			*			*		
Ramingining (L)	*			*					*			*			*		
Alyangula (L)						*				*				*	*		
Bamyili (Barunga) (L)			*	*								*			*		
Gapuwiyak (L)	*								*			*			*		
Lajamanu (L)			*	*											*	*	
Milikapiti (L)												*	*		*		*
Pine Creek (L)						*	*				*				*		
Pirlangimpi (L)												*	*		*		*
St Pauls (L)										*		*		*	*		
Umagico (L)					*					*			*		*		

Of note in the above table, is the presence of two mining communities Alyangula and Pine Creek. Interestingly Alyangula also appears in Table 63 as a high capacity community. This apparent contradiction is explained by the fact that on the one hand the characteristics of the community suggest high income, qualifications and reasonable access to services such as mobile phone technology—but on the other, limited leisure time, declining population and geographic isolation. The indicators are therefore suggesting strong opposing forces that tend to build and reduce community capacity concurrently. Within the list of high capacity communities there is a mix of community 'types'. The types could be described as:

- Urban growth communities (Darwin, Kuranda, Palmerston, Deeragun),
- Mining communities (Jabiru, Nhulunbuy, Alyangula, Dysart, Middlemount, Glenden, Tieri), and
- Peri-urban lifestyle communities (Alligator Creek, Howard Springs, Balgal Beach, Cungulla, Pallarenda).

The urban growth communities tend to show high population growth and are within or close to a major urban centre (Darwin, Cairns, Townsville) and tend to be very accessible with good health indicators. Darwin in itself is not a high population growth region, but growth is occurring in the greater Darwin area, most notably in Palmerston. The mining communities are dependent on the mining industry for employment but are marked by high incomes, low dependency ratios and strong labour force participation. The peri-urban lifestyle communities are not marked by high population growth, but tend to have a diverse industry mix, high levels of home ownership and probably benefit from their proximity to a major urban centre. Some could be described as retirement centres, while others benefit from tourism and/or a strong retail sector.

Some of these high capacity communities do have vulnerabilities. Within the mining communities, the dependence on a single industry, high mobility, stresses associated with long working hours and environmental issues, do impact negatively on capacity. The peri-urban lifestyle communities are threatened by low incomes and population stagnation/decline. The urban growth communities are subject to environmental pressures, and the high growth rate means that many of the social networks that will help build the communities in years to come are still in formative stages of development.

Table 63. Synthesised list of localities and urban centres with highest capacity on the basis of 17 indicators of community well-being

Urban centre/locality	Infant mortality	Attendance at institutions	Qualifications	Labour force participation	Occupations	Working hours	Mobility	Dependency ratio	Income	Accessibility (ARIA)	River disturbance	CDMA coverage	Home ownership	Population change	SEIFA	Lone person households	Suicide
Alligator Creek (L)		*	*			*		*		*		*	*		*		
Jabiru			*	*	*			*				*					*
Nhulunbuy			*	*	*			*	*			*					
Alyangula (L)			*	*	*				*			*					
Darwin	*		*					*		*		*					
Deeragun						*				*		*	*	*			
Dysart	*				*			*	*			*					
Howard Springs			*				*					*	*				*
Middlemount	*			*				*	*			*					
Palmerston	*									*		*		*	*		
Tieri		*			*				*			*			*		
Balgal Beach (L)		*								*		*	*				
Cungulla (L)										*		*	*		*		
Glenden (L)	*			*					*			*					
Kuranda			*		*							*		*			
Pallarenda (L)		*	*							*		*					

What role does VET play?

The question that this paper does not attempt to answer, but which is the subject of the overall research project is 'what role does VET play in the sustainable development and capacity building of these communities?'. It is clear from this analysis of savanna communities that VET does play a significant role in the region. The predominance of certificate qualifications, particularly among males and particularly in moderately accessible and remote areas, is one indicator of this. However, while nationally 12.3% of the population hold certificate qualifications, in the savanna region just 9.6% of the population hold a certificate qualification.

While it could be expected that there will be a correlation between qualifications and the presence of certain occupations and certain industries, the relationship between VET and the other community capacity indicators identified here requires further investigation. This can be partly achieved through detailed statistical analysis, and further, through detailed case studies within communities. The analysis here suggests that a case study approach could be applied to one of each of the main types of communities identified:

- A high capacity remote mining community, for example Alyangula, Nhulunbuy or Jabiru
- A lower capacity Indigenous community where VET is accessible (possibly through its proximity to a mining community), for example Angurugu, Yirrkala or Oenpelli
- A diverse peri-urban lifestyle community, for example Howard Springs and;
- An urban growth community, such as Palmerston.

Specifically, the case studies and detailed statistical analysis could yield knowledge about the way that VET impacts:

- The economic sustainability of the community
- The ecological sustainability of the region, and
- The social capital of the community.

An understanding of these issues could contribute to the way VET is marketed, the way it is managed and the way it is used within a community to build community capacity.

Conclusions

The purpose of this paper has primarily been to identify a set of indicators that can be used to show relative levels of community capacity within the savanna region of Australia. A total of 22 indicators were used to represent eight areas of social well-being. The basis of the choice of these indicators was a review of predominantly Australian literature, which yielded many more indicators than those used here. Of these, 17 were applied directly to 118 urban centres and localities across the savanna region of northern Australia. It is noted that these indicators are just that—they do not directly measure community capacity. However the aggregation of these indicators does provide a strong case for their application.

One of the outcomes has been the identification of a number of savanna communities that could be described as either 'high capacity' or 'low capacity' communities. Those that were identified as low capacity were predominantly Indigenous communities. While these communities have been identified as 'low capacity' centres, they do tend to have some strengths:

- Few of the communities are declining significantly (in terms of population),
- The RDI tends to be low indicating a sustainable environment,
- Suicide rates are not high,
- Leisure time is adequate, and
- Dependency ratio is not among the highest.

However the challenge for these communities tends to lie in the areas of health, education, employment, income, and access to services.

Among those communities identified as high capacity communities, three main types emerged. The types could be described as:

- Urban growth communities,
- Mining communities, and
- Peri-urban lifestyle communities.

The strengths of each of these communities is to a large extent dependent on its type. The urban growth centres are marked by their population growth, good health and their relative accessibility to goods and services. Mining communities were marked by high incomes, low dependency ratios and strong labour force participation. The peri-urban lifestyle communities are not marked by high population growth, but tend to have a diverse industry mix, high levels of home ownership and probably benefit from their proximity to a major urban centre. Some could be described as retirement centres, while others benefit from tourism and/or a strong retail sector.

It is noted that these 'high capacity' communities have vulnerabilities. Within the mining communities, the dependence on a single industry, high mobility, stresses associated with long working hours and environmental issues, do impact negatively on capacity. The peri-urban lifestyle communities are threatened by low incomes and population stagnation/decline. The urban growth communities are subject to environmental pressures, and the high growth rate means that many of the social

networks that will help build the communities in years to come are still in formative stages of development.

The question of how VET contributes to the capacity of these communities and the potential it has as a tool for capacity building in low capacity communities remains unanswered at this point. However, this paper lays a foundation by which ongoing research can be based and the validity of the indicators used can be tested through a mix of qualitative and quantitative research methodologies.

References

ABS 1997a, *CDATA96,* Australian Bureau of Statistics, Cat. 2019.0.30.001, Australian Bureau of Statistics, Canberra.

ABS 1997b, *Aspects of Literacy: Assessed Skill Levels, Australia 1996,* ABS Catalogue 4228.0, Australian Government Publishing Service, Canberra.

ABS 1998a, *How Australians Use Their Time 1997,* Cat. 4153.0, Australian Bureau of Statistics, Canberra.

ABS 1998b, *Information paper: 1996 Census of population and housing—Socio-economic index for areas,* Cat. 2039.0, Australian Bureau of Statistics, Canberra.

ABS 1999a, *Australian Social Trends (1998),* Cat. 4102.0, Australian Bureau of Statistics, Canberra.

ABS 2001a, *ABS Views on Remoteness,* Cat 1244.0, Australian Bureau of Statistics, Canberra.

ABS 2001b, *Outcomes of ABS Views on Remoteness Consultation, Australia,* Cat 1244.0.00.001, Australian Bureau of Statistics, Canberra.

ABS 2001c, *Measuring Well-being: Frameworks for Australian Social Statistics 2001,* Dennis Trewin, Cat: 4160.0, Australian Bureau of Statistics, Canberra.

ABS 2001d, *Australia's Environment: Issues and Trends*, Cat. 4613.0, Australian Bureau of Statistics, Canberra.

ABS 2002a, *Integrated Regional Data Base (IRDB), Australia*, Cat. 1353.0. Australian Bureau of Statistics, Canberra.

ABS 2002b, *Census of Population and Housing: Basic Community Profile,* Cat. 2001.0, Australian Bureau of Statistics, Canberra.

ABS 2002c, *Australian Standard Geographical Classification (ASGC) 2001,* Cat 1216.0, Australian Bureau of Statistics, Canberra.

ABS 2002d, *Measuring social capital—discussion summary and next steps, Discussion paper December 2002,* Australian Bureau of Statistics, Canberra.

ABS 2002e, *Social capital and social wellbeing, Discussion paper August 2002,* Australian Bureau of Statistics, Canberra.

ABS 2002f, *National Health Survey 2001,* Cat. 4364.0, Australian Bureau of Statistics, Canberra.

ABS 2002g, *National Health Survey: Aboriginal and Torres Strait Islander Results, Australia,* Cat 4715.0, Australian Bureau of Statistics, Canberra.

ABS 2002h, *Tourism indicators, Australia*. Cat 8634.0, Australian Bureau of Statistics, Canberra.

ABS 2002i, *Australian National Accounts, State Accounts,* Cat 5222.0, Australian Bureau of Statistics, Canberra.

ABS 2002j, *Indigenous profile*, Cat. 2002.0, Australian Bureau of Statistics, Canberra.

ABS 2002k, *Environmental Issues: People's Views and Practices*, Cat. 4602.0, Australian Bureau of Statistics, Canberra.

ABS 2002l, *Measuring Australia's Progress*, Cat.1370.0, Australian Bureau of Statistics, Canberra.

ABS 2002m, *Population Distribution, Indigenous Australians*, Cat. 4705.0, Australian Bureau of Statistics, Canberra.

ABS 2003a, *Expanded Community Profile*, Cat. 2005.0, Australian Bureau of Statistics, Canberra.

ABS 2003b, Employer Training Expenditure and Practices, Australia, Cat 6362.0, Australian Bureau of Statistics, Canberra.

ABS 2003c, *Time Series Profile*, Cat. 2003.0, Australian Bureau of Statistics, Canberra.

ABS 2003d, *Child Care—June 2002*, Cat. 4402.0. Australian Bureau of Statistics, Canberra.

ABS 2003e, *Recorded Crime Australia, 4510.0*, Australian Bureau of Statistics, Canberra.

ABS 2003f, *Environment by Numbers: Selected Articles on Australia's Environment*, Cat. 4617.0, Australian Bureau of Statistics, Canberra.

ABS 2003g, *Crime and safety*, Cat. 4509, Australian Bureau of Statistics, Canberra.

ABS 2003h, *Suicides, Australia*, Cat. 3309.0, Australian Bureau of Statistics, Canberra.

ABS 2003i, *Corrective Services, Australia*, 4512.0, Australian Bureau of Statistics, Canberra.

AECC 2002, *Regional Broadband Forum*, summary of themes, ideas and outcomes of second regional Broadband forum, Launceston 2002. http://www.tecc.com.au

AIHW 2002, *Australia's health 2002*. Australian Institute of Health and Welfare, Canberra.

Allen, J 1999, *The Nebraska Model.* Keynote presentation to Australian Regional Summit. Canberra, October 26-29, 1999

ANTA 1998, *A Bridge to the future—Australia's national strategy for vocational education and training, 1998-2003*, Australian National Training Authority, Brisbane.

ANTA 2000a, *Partners in a learning culture—national strategy*, Australian National Training Authority, Brisbane.

ANTA 2000b, *Partners in a learning culture—blueprint for implementation*, Australian National Training Authority, Brisbane.

ANTA 2003, *Shaping our future—National strategy for VET 2004-2010*, Australian National Training Authority, Brisbane.

ASEC 2001, *Australia State of the Environment 2001*, Australian State of the Environment Committee, Environment Australia, Canberra.

BAG 2003, *Australia's Broadband Connectivity* – The Broadband Advisory Group's report to Government, Commonwealth of Australia, Canberra

Balatti, J & Falk, I 2000, *Community Capacity and Vocational Education and Training*, Discussion Paper D4/2000, CRLRA Discussion Paper, Series ISSN 1440-480X, University of Tasmania, Launceston.

Birch, E-R Kenyon, P Koshy, P & Wills-Johnson, N 2003, *Exploring the social and economic impacts of adult and community education*, NCVER, Leabrook.

Bordieu, P, 1991, *Language and symbolic power*. Edited and introduced by John B Thompson, Polity Press, Cambridge.

BRS 1999, *Country Matters-social atlas of rural and regional Australia.* Bureau of Rural Sciences, Agriculture, Forestry and Fishing—Australia (AFFA), Kingston, ACT.

Coleman, J 1988, Social Capital in the Creation of Human Capital, *American Journal of Sociology*, 94 Supplement S95-120

Coleman, J 1990, *Foundations of Social Theory*, Bellknap Press, Cambridge MA.

CRLRA 2000, *Managing change through VET: The role of vocational education and training in regional Australia*, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

CRLRA 2001a, *Building Dynamic Learning Communities: Ten Regional Case Studies.* Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

CRLRA 2001b, *Learning communities in education and training*. Vol 1 and 2. Report on the Role of VET in Regional Australia project for ANTA. October. Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

DEET 2002, *DEET Annual Report 2001/2002*, Northern Territory Government, Department of Employment, Education and Training, Darwin.

Department of Victorian Communities 2003, *Victorian Community Building Information Sheet*, Available from: http://www.communitybuilding.vic.gov.au/cb_initiatives/about_initiative.asp

DHAC 1999, *Measuring remoteness: Accessibility/Remoteness Index of Australia (ARIA)*, Department of Health and Aged Care Occasional Papers, New Series no. 6, Canberra.

DHAC 2001, *Measuring remoteness: Accessibility/Remoteness Index of Australia (ARIA)*, Department of Health and Aged Care Occasional Papers, New Series no. 14, Canberra.

DHAC 2003, A Fairer Medicare. Department of Health and Aged Care http://www.health.gov.au/fairermedicare/overview.htm

Doyle, L Kerr, E & Kurth, B 2000, *Knowledge work – the rise of the office economy*. ANTA, Brisbane.

Environment Australia 2002a, *Environment Australia Annual Report 2001-02*, Environment Australia, Canberra.

ERIN 2001, *River Disturbance Values, Northern Territory, Queensland and Western Australia*, Environment Resource Information Network, Environment Australia. Accessed from: http://www.heritage.gov.au/anlr/code/rivmaps.html

Environment Australia, 2002b, *Are We Sustaining Australia? Report Against Headline Sustainability Indicators*, Environment Australia, Canberra

Falk, I 2000, *Leadership in Vocational Education and Training: Developing social capital through partnerships*. Paper delivered to AVETRA conference, March 2000. CRLRA, Launceston.

Falk, I Golding, B & Balatti, J 2000, *Building Communities: ACE, Lifelong Learning and Social Capital*. Melbourne: Adult, Community and Further Education Board, Victorian Government.

Falk, I & Guenther, J 2000, *Measuring trust and community capacity: Social capital for the common good*. Research Report Series, Centre for Research and Learning in Regional Australia, University of Tasmania: Launceston, Tasmania.

Falk, I & Guenther, J 2002, *Literacy and numeracy for the new world of un/employment—Implications of a fully literate Australia*, ALNARC. Language Australia, Melbourne.

Falk, I & Kilpatrick, S *1999, What is Social Capital? A study of interaction in a rural Community*. Discussion Paper D5/1999, CRLRA Discussion Paper, Series ISSN 1440-480X, University of Tasmania, Launceston.

Falk, I (ed) 2001, *Learning to manage change—Developing regional communities for a local–global millennium*, NCVER, Leabrook & University of Tasmania, Launceston.

Glezer H & Wolcott, I 1998, Work and Family Life: Reciprocal Effects, paper presented to Changing families, challenging futures, 6th Australian Institute of Family Studies Conference. Melbourne 25-27 November 1998.

Gollan, P 2001, AWA Employee Attitude Survey, September 2001, Office of the Employment Advocate, Canberra. Available from: http://www.oea.gov.au/

Government of Western Australia 2002, *Focus on the future: The Western Australian State Sustainability Strategy, Consultation Draft*, Department of the Premier and Cabinet, Perth.

Grootaert, C & van Bastelaer T 2001, Understanding and Measuring Social Capital: A Synthesis of Findings and Recommendations from the Social Capital Initiative. SCI Working Paper No. 24, The World Bank Social Development Department, Washington.

Gugerty, M & Kremer, M 2000, *Does development assistance help build social capital?* The World Bank Social Development Department Social Capital Working Paper Series, The World Bank, Washington.

Hazzlewood, J 2001, *The TALANT: The third age learner accessing new technology,* Paper for the 10th National Conference of NCVER, 10–13 July 2001, CRLRA, University of Tasmania, Launceston.

Henry, J Arnott, A Clark, T Dembski, L Langton, M & Wells, J 1998, *Djama and Vet: Exploring Partnerships and Practices in the Delivery of Vocational Education and Training in Rural and Remote Aboriginal Communities*. Vols. I & II. Darwin: Northern Territory University Press.

Hughes, P & Bellamy, J 1998, The Distribution of Social Capital , The Breadth of Social Networks, Paper presented to the 4th National Conference, Australian and New Zealand Third Sector Research (ANZTSR) - Community, Citizenship And Enterprise Culture on 17 - 19 June 1998

Kearns, P Murphy, M & Villiers, G 1996, *Industry education partnership: Innovation and learning, the report.* Australian National Training Authority, Melbourne.

Kilpatrick, S & Falk, I 2001, Benefits for All: How learning in agriculture can build social capital in island communities, Discussion Paper D2/2001, CRLRA Discussion Paper Series ISSN 1440-480X, Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick S & Guenther, J 2003, *Successful VET partnerships in Australia*. International Journal of Training Research, Vol 1.

Kilpatrick, S Fulton, A & Bell, R 2001, *Providing Client-Focused Education and Training: A report for Agriculture, Fisheries & Forestry Australia,* Centre for Research and Learning in Regional Australia, University of Tasmania, Launceston.

Kilpatrick, S Bell, R & Kilpatrick, P 2000, *Vocational Education and Training in rural schools: education for the community*. Paper for AVETRA conference 2000.

Kilpatrick, S Johns, S Mulford, B Falk, I & Prescott, L 2001, *More than an education: Leadership for rural school-community partnerships,* A report for the Rural Industries Research and Development Corporation. Kingston ACT.

Knack, S & Keefer, P 1997, 'Does Social Capital Have an Economic Payoff? A Cross Country Investigation' in *The Quarterly Journal of Economics,* Vol CXII., The MIT Press, Cambridge

Krishna, A & Uphoff, N. 1999, Operationalizing Social Capital: Explaining and Measuring Mutually Beneficial Collective Action in Rajasthan, India. The World Bank. Washington, DC.

Martin, G 2002, 'Spirituality and Suicide Prevention', *Auseinetter,* Issue 15, July, No 2/2002.

Millar, P & Falk, I 2000, *Seniors Online: Online literacy and learning by senior citizens in rural centres*, Adult Literacy and Numeracy Australian Research Consortium -ALNARC, Victoria University, Melbourne.

Morehead, A Steele, M Alexander, M Stephen & K Duffin, L 1997, Changes at work, the 1995 Australian Workplace Industrial Relations Survey, Longman, South Melbourne.

NBEET 1995, *Cross-sectoral Collaboration in Post-secondary Education and Training*, Australian Government Publishing Service, Canberra.

NCVER 2000, *Vocational education and training in Australia 1991-2000: At a glance*, Australian National Training Authority, Adelaide.

NCVER 2001, Australian adult and community education—an overview, statistics 2000, NCVER, Leabrook.

NCVER 2002a, *Australian vocational education and training statistics 2001*: *In detail*, NCVER, Leabrook.

NCVER 2002b, *Student outcomes survey—in summary 2002*, NCVER, Leabrook.

NCVER 2002c, Australian apprentice and trainee statistics—Annual 2001, NCVER, Leabrook.

NEIR 1998, *State of the regions*, National Economics, Clifton Hill.

NEIR/ALGA 2001, *State of the regions*, National Economics, Clifton Hill.

NRE 2001, *Social Capability in Rural Victoria: The Food & Agriculture and Natural Resource Management Sectors*, Department of Natural Resources and Environment, Bendigo.

NSW Government 2003, *Community Capacity Building Programs And Approaches*, Presentation notes by Gary Moore, NSW Premier's Department, for NSW Health Promotion Director's Forum, 19 Feb 2002 [www document]:http://www.communitybuilders.nsw.gov.au/builder/what/capb_progs.html

NTDE, 1999, *Learning Lessons*—an independent review of Indigenous education in the Northern Territory. Northern Territory Department of Education, Darwin.

OECD 1973, *The OECD list of social indicators*, OECD social indicator development programme, Organisation for Economic Cooperation and Development, Paris.

OECD 1982, *International List of Social Indicators.* Organisation for Economic Cooperation and Development, Paris.

OECD 2001a, *The Well-being of Nations—The role of human and social capital*, Organisation for Economic Cooperation and Development, Paris.

OECD 2001b, *Sustainable development: Critical issues*. OECD Policy Brief, September 2001,

OECD 2001c, *Society at a Glance - OECD Social Indicators 2001 edition*, Organisation for Economic Cooperation and Development, Paris.

OECD 2001d, *Civil Society and the OECD*, Policy Brief, October 2001, OECD , Paris.

Portes, A & Landolt, P 1996, Unsolved Mysteries: The Tocqueville Files II: The Downside of Social Capital, *The American Prospect* vol. 7 no. 26, May 1, 1996 - June 1, 1996

Putnam, R 1993, The Prosperous Community, *The American Prospect*, Vol. 4 no. 13, March 21, 1993.

Queensland Police 2002, Annual statistical review 2002, Queensland Police Service, http://www.police.qld.gov.au/statsnet.htm

Rossing Feldman, T & Assaf, S 1999, *Social Capital: Conceptual Frameworks and Empirical Evidence--An Annotated Bibliography*, Social Capital Initiative Working Paper No. 5, The World Bank Social Development Department, Washington.

RTI 2002, *Connecting Regional Australia – The report of the Regional Telecommunications Inquiry*, Commonwealth Department of Communications, Information Technology and the Arts, Canberra.

Shimeld, J 2001, *Community Partnerships: Building and Strengthening*. A Discussion Paper developed by the Enterprise and Career Education Foundation (ECEF)

Sommerlad, E Duke, C & McDonald, R 1998, *Universities and TAFE: Collaboration in the Emerging World of 'Universal Higher Education'*, DEST, [WWW document]
URL http://www.dest.gov.au/nbeet/publications/#hec

Stimson, R Baum, S Mullins, P & O'Connor, K 1999, Australia's regional cities and towns: Modelling community opportunity and vulnerability, *Paper presented at Regenerating Regional Communities 1999 ANZRSAI Conference*, Newcastle, 19-22 September.

Tasmania Together 2002, *Tasmania Together Progress Report 2002*, A report to Tasmanian Parliament, Tasmania Together Board.
http://www.tasmaniatogether.tas.gov.au/reports_papers.html

Telstra 2002, *National and NT Digital CDMA Mobile coverage*, June 2002 Issue 4.

TS-CRC 2003, *Tropical Savannas Mapmaker*, Tropical Savannas Cooperative Research Centre,
http://www.savanna.ntu.edu.au/information/savanna_mapmaker.html

Topolsky, J. 1997. *On Target, On Task, On Reflection: The Culture of Learning Communities*. International Community Development Society Plenary, Athens, Georgia.

Uslaner E 2003, 'Trust, Democracy, and Governance: Can Government Policies Influence Generalized Trust?' in *Generating Social Capital— Civil Society and Institutions in Comparative Perspective*, eds. Dietlind Stolle and Marc Hooghe, Palgrave, New York.

Warren, M 1999, *Democracy and Trust*, Cambridge University Press, Cambridge.

Western Australia Police 2002, Annual report 2002, Western Australian Police Service, Perth.

WFU 1999, Work and Family State of Play 1998, Work and Family Unit, Department of Workplace Relations and Small Business, Canberra.

Whitehead, PJ Woinarski, J Jacklyn, P Fell, D & Williams, D 2000, *Defining and measuring the health of savanna landscapes: A north Australian perspective, Tropical Savannas CRC Discussion Paper,* Tropical Savannas CRC, Darwin.

Woolcock, M 1998, 'Social capital and economic development: toward a theoretical synthesis and policy framework' in *Theory and Society*. 27:151-208.

Woolcock, M 1999, *Managing risk, shocks and opportunity in developing economies: The role of social capital*, Development Research Group, The World Bank, unpublished paper.

World Bank 1998, *The Initiative on defining, monitoring and measuring social capital, Social Capital Initiative Working Paper No.*, The World Bank Social Development Department, Washington.

Appendices

Additional tables

Urban centres and localities

Table 64. Complete list of all savanna urban centres and localities

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Percent change
Queensland Urban Centres and Localities				
300320	Alice River	1359	1161	17.1%
300400	Alligator Creek (L)	976	778	25.4%
301000	Alpha (L)	367	395	-7.1%
301400	Aramac (L)	323	342	-5.6%
301600	Arcadia Bay (L)	764	638	19.7%
302200	Aurukun (L)	999	778	28.4%
302400	Ayr	8515	8697	-2.1%
302900	Balgal Beach (L)	641	563	13.9%
303000	Bamaga (L)	774	756	2.4%
303400	Barcaldine	1496	1592	-6.0%
305400	Blackall	1404	1432	-2.0%
306000	Blackwater	4928	5931	-16.9%
306800	Bluff (L)	317	431	-26.5%
306930	Bohle Plains	1075	987	8.9%
307600	Boulia (L)	290	243	19.3%
307800	Bowen	8550	8985	-4.8%
308200	Brandon (L)	850	883	-3.7%
309300	Burketown (L)	221	220	0.5%
311000	Camooweal (L)	243	258	-5.8%
311600	Capella (L)	760	741	2.6%
313400	Clermont	2042	2388	-14.5%
314000	Cloncurry	2748	2459	11.8%
314200	Collinsville	2013	2021	-0.4%
314400	Cooktown	1638	1411	16.1%
316100	Croydon (L)	224	223	0.4%
316340	Cungulla (L)	203	213	-4.7%
317200	Deeragun	5631	2314	143.3%
317400	Dimbulah (L)	409	429	-4.7%
317800	Doomadgee	1119	754	48.4%
318000	Duaringa (L)	258	276	-6.5%
318400	Dysart	2463	3444	-28.5%
320200	Emu Park	2706	2788	-2.9%
322200	Georgetown (L)	318	298	6.7%
322600	Giru (L)	379	436	-13.1%
323200	Glenden (L)	977	1329	-26.5%
326800	Herberton (L)	946	994	-4.8%
327600	Home Hill	2946	3071	-4.1%
327800	Hope Vale (L)	750	706	6.2%
327900	Horseshoe Bay (L)	590	528	11.7%
328200	Hughenden	1424	1444	-1.4%
328950	Injinoo (L)	389	337	15.4%

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Percent change
330200	Julia Creek (L)	525	519	1.2%
330600	Kalamia Estate (L)	363	363	0.0%
331000	Karumba	1346	1043	29.1%
331600	Keppel Sands (L)	339	318	6.6%
333200	Kowanyama (L)	891	912	-2.3%
333600	Kuranda	1456	666	118.6%
334400	Lockhart River (L)	454	504	-9.9%
334600	Longreach	3673	3766	-2.5%
336800	Mareeba	6900	6874	0.4%
337600	Merinda (L)	210	270	-22.2%
337800	Middlemount	2057	2132	-3.5%
340400	Moranbah	6133	6508	-5.8%
341200	Mount Garnet (L)	417	406	2.7%
341400	Mount Isa	20525	21751	-5.6%
343600	Nelly Bay	1311	1236	6.1%
343900	New Mapoon (L)	326	276	18.1%
344600	Normanton	1447	1328	9.0%
345000	Pallarenda (L)	882	884	-0.2%
346000	Picnic Bay (L)	577	575	0.3%
347140	Pormpuraaw (L)	649	553	17.4%
348400	Ravenshoe (L)	830	867	-4.3%
348800	Richmond (L)	641	733	-12.6%
350050	St Pauls (L)	200	283	-29.3%
352600	Tambo (L)	359	378	-5.0%
355200	Thursday Island	2693	2483	8.5%
355400	Tieri	1637	1591	2.9%
358100	Umagico (L)	253	231	9.5%
360400	Winton	1321	1142	15.7%
361800	Woorabinda (L)	961	1119	-14.1%
363000	Yeppoon	10778	8810	22.3%
Western Australia Urban Centres and Localities				
500920	Bardi (One Arm Point) (L)	310	312	-0.6%
500950	Beagle Bay (L)	300	285	5.3%
502400	Broome	15906	11368	39.9%
507000	Derby	3688	3236	14.0%
509200	Fitzroy Crossing	1507	1147	31.4%
511000	Halls Creek	1289	1263	2.1%
512440	Kalumburu (L)	339	368	-7.9%
514200	Kununurra	5485	4884	12.3%
514600	La Grange (L)	511	557	-8.3%
516400	Looma (L)	287	359	-20.1%
529800	Wyndham (L)	787	868	-9.3%
Northern Territory Urban Centres and Localities				
700100	Adelaide River (L)	228	279	-18.3%
700400	Alyangula (L)	972	1231	-21.0%
700600	Angurugu (L)	758	717	5.7%
700800	Bamyili (Barunga) (L)	346	249	39.0%
701000	Batchelor (L)	727	645	12.7%
701160	Belyuen (L)	214	234	-8.5%
701400	Borroloola (L)	769	551	39.6%

UCL Code	Urban Centre / Locality name	2001 population	1996 population	Percent change
701800	Daly River (L)	621	349	77.9%
702000	Darwin	71347	70251	1.6%
702400	Elliott (L)	419	432	-3.0%
702600	Galiwinku	1463	1286	13.8%
702640	Gapuwiyak (L)	668	447	49.4%
702700	Gunyangara (L)	260	368	-29.3%
702870	Howard Springs	3440	3207	7.3%
702920	Humpty Doo-McMinns Lagoon	5245	4798	9.3%
703200	Jabiru	1775	1696	4.7%
703600	Katherine	6719	7979	-15.8%
703900	Lajamanu (L)	705	591	19.3%
704000	Maningrida	1645	1328	23.9%
704070	Mataranka (L)	499	667	-25.2%
704200	Milikapiti (L)	450	456	-1.3%
704400	Milingimbi (L)	992	941	5.4%
704450	Minjilang (L)	204	207	-1.4%
704600	Nguiu	1310	1194	9.7%
704800	Ngukurr (L)	933	904	3.2%
705000	Nhulunbuy	3804	3695	2.9%
705200	Numbulwar (L)	717	619	15.8%
705400	Oenpelli (L)	858	741	15.8%
705500	Palmerston	20570	12233	68.2%
705800	Pine Creek (L)	472	521	-9.4%
705870	Pirlangimpi (L)	369	285	29.5%
706000	Port Keats	1048	1290	-18.8%
706400	Ramingining (L)	613	473	29.6%
706860	Timber Creek (L)	300	566	-47.0%
706950	Umbakumba (L)	372	391	-4.9%
707020	Virginia-Bees Creek	2573	2173	18.4%
707600	Warruwi (L)	331	294	12.6%
707800	Yirrkala (L)	648	521	24.4%

Savanna SLAs

Table 65. Complete listing of all SLAs covered by savanna region

ASGC 2001 code	SLA name	State code	Statistical division name	ARIA value	ARIA	Density
345057001	Aitkenvale	3	Northern (QLD)	3	A	1473.76
705051004	Alawa	7	Darwin	3	A	1539.21
705051008	Anula	7	Darwin	3	A	1878.60
335050150	Aramac (S)	3	Central West (QLD)	10.96	VR	0.03
350100250	Aurukun (S)	3	Far North	11.97	VR	0.14
705102802	Bakewell	7	Darwin	3.25	A	2061.54
335050400	Barcaldine (S)	3	Central West (QLD)	11	VR	0.21
710100609	Bathurst-Melville	7	Northern Territory - Bal	10.35	VR	0.30
340100600	Belyando (S)	3	Mackay	7.08	R	0.33
335050750	Blackall (S)	3	Central West (QLD)	10.97	VR	0.11
335050900	Boulia (S)	3	Central West (QLD)	9.68	VR	0.01
340100950	Bowen (S)	3	Northern (QLD)	6.22	R	0.65
705051014	Brinkin	7	Darwin	3	A	738.65
340101700	Broadsound (S)	3	Mackay	5.5	MA	0.36
545100980	Broome (S)	5	Kimberley	10.75	VR	0.33
345151900	Burdekin (S)	3	Northern (QLD)	4.66	MA	3.68
355051950	Burke (S)	3	North West	11.58	VR	0.05
355052250	Carpentaria (S)	3	North West	11.51	VR	0.07
345152300	Charters Towers (C)	3	Northern (QLD)	4.55	MA	203.22
705051018	City - Inner (Darwin)	7	Darwin	3	A	2231.27
705051138	City - Remainder (Darwin)	7	Darwin	3.09	A	135.05
345057003	City (Townsville)	3	Northern (QLD)	3	A	1082.55
355052450	Cloncurry (S)	3	North West	8.86	R	0.10
705051024	Coconut Grove	7	Darwin	3	A	1427.63
350102504	Cook (S) - Weipa only	3	Far North	12	VR	325.10
350102501	Cook (S) (excl. Weipa)	3	Far North	10.82	VR	0.07
710050700	Coomalie (CGC)	7	Northern Territory - Bal	4.96	MA	0.91
710050759	Cox-Finniss	7	Northern Territory - Bal	5.27	MA	0.17
345057007	Cranbrook	3	Northern (QLD)	3	A	1895.83
350102600	Croydon (S)	3	Far North	11.33	VR	0.01
345057012	Currajong	3	Northern (QLD)	3	A	1452.50
345152700	Dalrymple (S)	3	Northern (QLD)	6.38	R	0.06
710200809	Daly	7	Northern Territory - Bal	8.21	R	0.10
545102800	Derby-West Kimberley (S)	5	Kimberley	11.82	VR	0.09
345057014	Douglas	3	Northern (QLD)	3	A	410.78
705102804	Driver	7	Darwin	3.25	A	1407.18
330152850	Duaringa (S)	3	Fitzroy	4.44	MA	0.44

ASGC 2001 code	SLA name	State code	Statistical division name	ARIA value	ARIA	Density
705102806	Durack	7	Darwin	3.25	A	804.00
705101169	East Arm	7	Darwin	3.33	A	10.09
710251209	East Arnhem - Bal	7	Northern Territory - Bal	11.88	VR	0.18
710301409	Elsey - Bal	7	Northern Territory - Bal	9.79	VR	0.04
330153000	Emerald (S)	3	Fitzroy	6.15	R	1.38
350103100	Etheridge (S)	3	Far North	10.29	VR	0.04
705051028	Fannie Bay	7	Darwin	3.21	A	522.56
355053200	Flinders (S)	3	North West	10.03	VR	0.05
345057015	Garbutt	3	Northern (QLD)	3.01	A	224.43
705102808	Gray	7	Darwin	3.25	A	2164.50
710251609	Groote Eylandt	7	Northern Territory - Bal	12	VR	0.91
710301809	Gulf	7	Northern Territory - Bal	11.86	VR	0.04
345057018	Gulliver	3	Northern (QLD)	3	A	1881.49
545053920	Halls Creek (S)	5	Kimberley	12	VR	0.03
345057023	Heatley	3	Northern (QLD)	3	A	2201.41
350103700	Herberton (S)	3	Far North	5.72	MA	0.53
345057026	Hermit Park	3	Northern (QLD)	3	A	1560.66
335053850	Ilfracombe (S)	3	Central West (QLD)	11.46	VR	0.05
710152000	Jabiru (T)	7	Northern Territory - Bal	9.06	R	135.49
330154100	Jericho (S)	3	Fitzroy	9.56	VR	0.05
705051034	Jingili	7	Darwin	3	A	1392.40
705051038	Karama	7	Darwin	3	A	2349.32
710302200	Katherine (T)	7	Northern Territory - Bal	6.89	R	19.12
345106801	Kelso	3	Northern (QLD)	3.02	A	492.07
345106804	Kirwan	3	Northern (QLD)	3.02	A	1504.00
705051044	Larrakeyah	7	Darwin	3	A	1897.23
705051048	Leanyer	7	Darwin	3	A	1918.13
705051052	Lee Point-Leanyer Swamp	7	Darwin	3.63	A	25.92
705202304	Litchfield (S) - Pt A	7	Northern Territory - Bal	3.36	A	22.23
705202308	Litchfield (S) - Pt B	7	Northern Territory - Bal	3.96	A	4.97
330154550	Livingstone (S)	3	Fitzroy	3.37	A	2.30
335054700	Longreach (S)	3	Central West (QLD)	11.73	VR	0.19
705051054	Ludmilla	7	Darwin	3	A	494.85
345057031	Magnetic Island	3	Northern (QLD)	5.44	MA	64.37
705051058	Malak	7	Darwin	3	A	1933.81
350104850	Mareeba (S)	3	Far North	7.93	R	0.34
705051064	Marrara	7	Darwin	3.09	A	460.64
355054800	McKinlay (S)	3	North West	10.28	VR	0.03
705051068	Millner	7	Darwin	3	A	1665.19
705051074	Moil	7	Darwin	3	A	1942.45
355055250	Mornington (S)	3	North West	12	VR	0.77
705102814	Moulden	7	Darwin	3.25	A	1871.97
355055300	Mount Isa (C)	3	North West	8.94	R	0.52

ASGC 2001 code	SLA name	State code	Statistical division name	ARIA value	ARIA	Density
345057033	Mt Louisa-Mt St John-Bohle	3	Northern (QLD)	3.14	A	123.94
345057034	Mundingburra	3	Northern (QLD)	3	A	1499.98
345057038	Murray	3	Northern (QLD)	3	A	374.64
705051078	Nakara	7	Darwin	3	A	1692.25
705051084	Narrows	7	Darwin	3	A	1677.50
340105700	Nebo (S)	3	Mackay	5.51	MA	0.25
710252409	Nhulunbuy	7	Northern Territory - Bal	12	VR	555.54
705051088	Nightcliff	7	Darwin	3	A	2218.05
345057041	North Ward-Castle Hill	3	Northern (QLD)	3	A	1397.61
345057044	Oonoonba-Idalia-Cluden	3	Northern (QLD)	3	A	222.64
345057047	Pallarenda-Shelley Beach	3	Northern (QLD)	3.17	A	27.54
705102824	Palmerston (T) Bal	7	Darwin	3.3	A	53.67
705051094	Parap	7	Darwin	3	A	1733.87
330155850	Peak Downs (S)	3	Fitzroy	6.32	R	0.41
345057051	Pimlico	3	Northern (QLD)	3	A	1759.30
345057054	Railway Estate	3	Northern (QLD)	3	A	666.98
705051098	Rapid Creek	7	Darwin	3	A	1622.05
355056300	Richmond (S)	3	North West	10.88	VR	0.04
345057058	Rosslea	3	Northern (QLD)	3	A	1305.90
345057062	Rowes Bay-Belgian Gardens	3	Northern (QLD)	3.02	A	566.46
710153309	South Alligator	7	Northern Territory - Bal	7.31	R	0.08
345057065	South Townsville	3	Northern (QLD)	3	A	673.98
705051104	Stuart Park	7	Darwin	3	A	794.89
345057068	Stuart-Roseneath	3	Northern (QLD)	3.08	A	18.36
710353409	Tableland	7	Northern Territory - Bal	11.7	VR	0.01
335056650	Tambo (S)	3	Central West (QLD)	10.48	VR	0.06
705051108	The Gardens	7	Darwin	3	A	506.25
345106807	Thuringowa (C) - Pt A Bal	3	Northern (QLD)	3.38	A	123.97
345156831	Thuringowa (C) - Pt B	3	Northern (QLD)	3.79	A	4.23
705051114	Tiwi	7	Darwin	3	A	889.43
350106950	Torres (S)	3	Far North	12	VR	5.21
345157084	Townsville (C) - Pt B	3	Northern (QLD)	3.78	A	2.27
710304409	Victoria	7	Northern Territory - Bal	11.51	VR	0.02
345057071	Vincent	3	Northern (QLD)	3	A	2027.78
705051118	Wagaman	7	Darwin	3	A	2452.24
705051124	Wanguri	7	Darwin	3	A	1786.19
710154809	West Arnhem	7	Northern Territory - Bal	10.4	VR	0.07
345057074	West End (Townsville)	3	Northern (QLD)	3	A	1264.90
705051128	Winnellie	7	Darwin	3.05	A	150.24
335057400	Winton (S)	3	Central West	11.49	VR	0.04

ASGC 2001 code	SLA name	State code	Statistical division name	ARIA value	ARIA	Density
			(QLD)			
705102818	Woodroffe	7	Darwin	3.25	A	2132.07
705051134	Wulagi	7	Darwin	3	A	1940.33
345057078	Wulguru	3	Northern (QLD)	3.01	A	949.71
545059520	Wyndham-East Kimberley (S)	5	Kimberley	12	VR	0.09

Table 66. ARIA Values, 1999 and 2001 (Source DHAC 1999, 2001)

ARIA classes	ARIA+ score range in the Class (2001)	ARIA score range in the class (1999)	Percent population 1996	Description
Highly Accessible	0 to 0.19	0 to 1.84	60.70%	Geographic distance imposes minimal restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Accessible	0.2 to 2.39	1.85 to 3.51	24.60%	Geographic distance imposes some restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Moderately Accessible	2.4 to 5.94	3.52 to 5.8	11.70%	Geographic distance imposes a moderate restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Remote	5.95 to 10.49	5.8 to 9.08	2.00%	Geographic distance imposes a high restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.
Very Remote	10.5 to 15	9.09 to 12	1.00%	Geographic distance imposes the highest restriction upon accessibility to the widest range of goods, services and opportunities for social interaction.

Detailed data

Table 67. Field of study by gender, savanna SLAs by ARIA remoteness as a percentage of all qualifications for residents aged 15+ (Source ABS 2002b)

Field of study by gender (M/F)	Accessible	Moderately accessible	Remote	Very remote	Savanna region
Natural and Physical Sciences M	2.3%	1.9%	1.6%	1.7%	2.0%
Natural and Physical Sciences F	1.6%	1.1%	1.0%	0.9%	1.3%
Information Technology M	1.3%	0.4%	0.5%	0.4%	0.9%
Information Technology F	0.7%	0.4%	0.4%	0.3%	0.6%
Engineering and Related Technologies M	26.0%	36.0%	35.8%	26.8%	28.8%
Engineering and Related Technologies F	1.2%	1.0%	1.3%	1.0%	1.2%
Architecture and Building M	8.0%	8.0%	7.7%	8.5%	8.0%
Architecture and Building F	0.3%	0.2%	0.1%	0.2%	0.2%
Agriculture, Environmental & Related Studies M	1.8%	3.2%	3.3%	4.4%	2.6%
Agriculture, Environmental & Related Studies F	0.7%	1.0%	1.2%	1.5%	0.9%
Health M	2.4%	2.1%	1.9%	2.3%	2.3%
Health F	8.6%	7.6%	7.8%	9.4%	8.5%
Education M	2.5%	3.0%	2.5%	3.8%	2.7%
Education F	7.2%	8.9%	8.1%	9.6%	7.9%
Management and Commerce M	5.9%	3.7%	3.8%	4.7%	5.1%
Management and Commerce F	9.3%	6.7%	7.5%	7.5%	8.4%
Society and Culture M	3.7%	1.6%	2.1%	3.0%	3.1%
Society and Culture F	6.2%	4.0%	4.2%	4.6%	5.3%
Creative Arts M	1.2%	0.6%	0.6%	0.9%	1.0%
Creative Arts F	1.6%	1.1%	0.9%	1.4%	1.4%
Food, Hospitality and Personal Services M	2.8%	2.8%	3.0%	2.7%	2.8%
Food, Hospitality and Personal Services F	3.6%	3.7%	3.4%	2.9%	3.5%
Mixed Field Programmes M	0.0%	0.0%	0.0%	0.1%	0.0%
Mixed Field Programmes F	0.0%	0.0%	0.0%	0.1%	0.0%
Field of Study inadequately described M	0.8%	0.7%	0.7%	0.7%	0.8%
Field of Study inadequately described F	0.5%	0.5%	0.5%	0.4%	0.5%
Total	100%	100%	100%	100%	100%

Table 68. Occupation profile of savanna regions within states

Occupation	Queensland	Western Australia	Northern Territory	All savanna
Managers and administrators	9.3%	8.9%	8.5%	9.0%
Professionals	13.1%	15.4%	17.1%	14.4%
Associate professionals	11.0%	11.2%	13.9%	11.8%
Tradespersons and related workers	15.0%	11.8%	13.9%	14.5%
Advanced clerical and service workers	2.5%	2.7%	3.2%	2.7%
Intermediate clerical, sales and service workers	14.4%	13.2%	15.7%	14.7%
Intermediate production and transport workers	12.1%	7.7%	7.4%	10.4%
Elementary clerical, sales and service workers	8.3%	7.0%	8.0%	8.1%
Labourers and related workers	12.4%	18.5%	9.9%	12.1%
Inadequately described	0.7%	1.4%	1.2%	0.9%
Not stated	1.3%	2.2%	1.3%	1.3%
Total occupations	158105	16908	69681	244694

Indicators

Table 69. Environment Australia (2002b) Sustainability indicators

Values	Indicator
1. Living standards and economic well-being	1. Real Gross National Income (GNI) (1998-99 prices) per capita in 1999-2000 2. Real Gross per capita disposable income at June 2000 (1998-99 prices)
2: Education and skills	3. Percentage of people aged 25-64 who have attained upper secondary and/or higher level of qualifications at 2000
3: Healthy living	4. Disability adjusted years life expectancy (DALE) at 1996
4: Air quality	5. Number of occasions where concentrations of pollutants exceeded NEPM standards for ambient air quality in major urban areas in 1999- 2000 6. Total SOx, NOx and particulate emissions in 1999-2000
5: Economic capacity	7. Growth in Multi-factor Productivity (Gross product per combined unit of labour and capital) for latest year (1999-2000)
6: Industry performance	8. Real GDP per capita in 1999-2000 (chain volume measures, 1998-99 prices)
7: Economic security	9.(i) National Net Worth as at 30th June 2000 9.(ii) National Net Worth per capita at 30th June 2000
8: Management of natural resources: water	10.(i)Proportion of surface water management areas with diversions within 70% of sustainable yield at 2000 10.(ii)Proportion of ground water management units with abstractions within 70% of sustainable yield at 2000
9: Management of natural resources: forests	11. Total area of all forest type at 1998
10: Management of natural resources: fish	12. Percentage of major Commonwealth managed harvested wild fish species classified as fully or under-fished at 1999
11: Management of natural resources: energy	13. (i) Renewable energy use as a proportion of total in 1998-99 13. (ii) Total renewable and non-renewable energy use (includes conversion losses) in 1998-99
12: Management of natural resources: agriculture	14. Net value of rural land (Interim indicator - Agreed indicator: 'net value of agricultural land use' not yet available) at June 2000
13: Gender and economic equity	15. Adult female full time (ordinary time) average weekly earnings as a proportion of adult male full time (ordinary time) average weekly earnings at February 2001 (seasonally adjusted)
14: Educational and economic equity	16. Percentage difference in the year 12 completion rate between bottom and top socio-economic decile in 1999
15: Health and socio-economic equity	17. (i) Percentage difference in burden of life years lost due to disability between bottom and top socio-economic quintile in 1996 17. (ii) Percentage difference in burden of life years lost due to mortality between bottom and top socio-economic quintile in 1996
16: Locational equity	18. Percentage difference in the year 12 completion rate between urban and remote locations in 1999

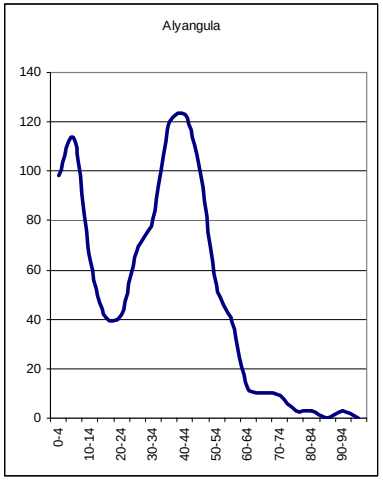
Values	Indicator
17: Biodiversity and ecological integrity	19. (i) Proportion of bio-geographic sub-regions with greater than 30 per cent of original vegetative cover (as a percentage of 354 sub regions) at 2000 19. (ii). Proportion of (354) bio-geographical sub-regions with greater than 10% of the sub-region's area in protected areas at 2000 20. (i) Number of extinct, endangered and vulnerable species at 2000 20. (ii) Number of endangered ecological communities at 2000
18: Climate change	21. Total net greenhouse gas emissions at 1999
19: Coastal and marine health	22. Estuarine condition index: Proportion of estuaries in near pristine or slightly modified condition at 2001
20: Freshwater health	23. Proportion of assessed sites which are with high in-stream biodiversity, based on macro-invertebrate community structure assessed using AusRivAs (as at April 2001)
21: Land health	24. Catchment condition Index - proportion of assessed catchments that are in moderate or good condition in 2001.

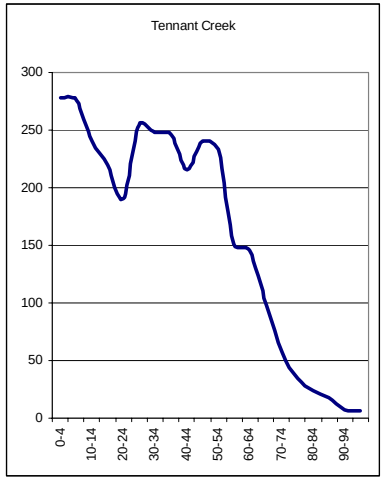
Table 70. Measures and basis of identification of high and low community capacity communities identified in this paper.

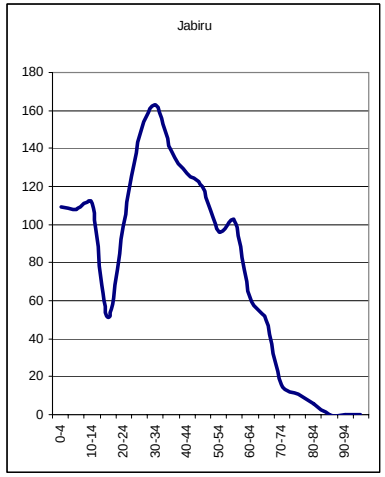
Indicator	High capacity	Low capacity
Infant mortality	Deduced from Table 6: Lowest IMR.	Deduced from Table 6: Highest IMR.
Attendance at institutions	Identified in Table 12: Highest percentage of school aged population attending primary and secondary schools.	Identified in Table 11: Lowest percentage of school aged population attending primary and secondary schools.
Qualifications	Identified in Table 15: Highest proportion of post-school qualifications.	Identified in Table 14: Lowest proportion of post-school qualifications.
Labour force participation	Identified in Table 19: Lowest proportion of population unemployed or not in labour force.	Identified in Table 18: Highest proportion of population unemployed or not in labour force.
Occupations	Identified in Table 27: Highest proportion as professionals and tradespersons.	Identified in Table 26: Lowest proportion as professionals and tradespersons.
Working hours	Identified in Table 28: Proportion of the workforce with an 'optimum' mix of work and leisure.	Identified in Table 29: Proportion of the workforce with the lowest mix of work and leisure.
Mobility	Identified in Table 30: Communities with closest to 50% of population with same address 5 years previously.	Identified in Table 31and Table 32: Extreme mobile and stable communities
Dependency ratio	Identified in Table 36: Lowest dependency ratio.	Identified in Table 37: Highest dependency ratio.
Income	Identified in Table 42: Highest weekly individual income	Identified in Table 42: Lowest weekly individual income
Accessibility (ARIA)	Identified in Table 43: Lowest ARIA values	Identified in Table 44: Highest ARIA values
River disturbance	Deduced from Figure 17: Lowest RDI	Deduced from Figure 17: Highest RDI
CDMA coverage	Deduced from Figure 18: Currently have access to CDMA phone coverage	Deduced from Figure 18: Currently have no access to CDMA phone coverage
Home ownership	Identified in Table 46: Highest percent of homes owned or being purchased	Identified in Table 48: Lowest percent of homes owned or being purchased
Population change	Identified in Table 53: Greatest population growth	Identified in Table 52: Greatest population decline
SEIFA	Deduced from Figure 25: Highest SEIFA	Deduced from Figure 25: Lowest SEIFA
Lone person households	Identified in Table 58: Lowest proportion of lone person households	Identified in Table 59: Highest proportion of lone person households
Suicide	Deduced from Table 56: Lowest suicide rate	Deduced from Table 56: Highest suicide rate

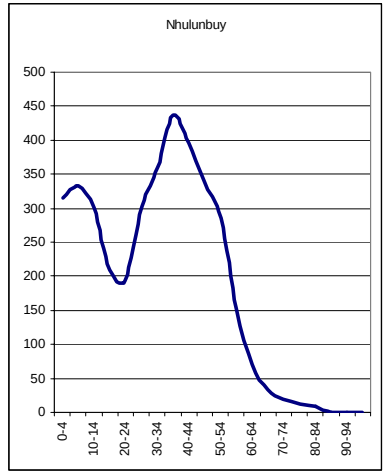
Figure 28. Age profiles of Northern Territory regional urban centres and localities outside Darwin (Source: ABS 2002b)

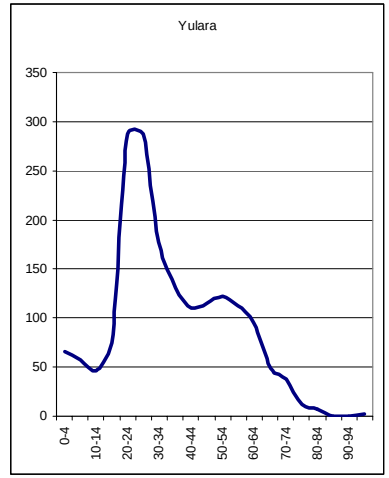
Communities with a predominantly non-Indigenous population



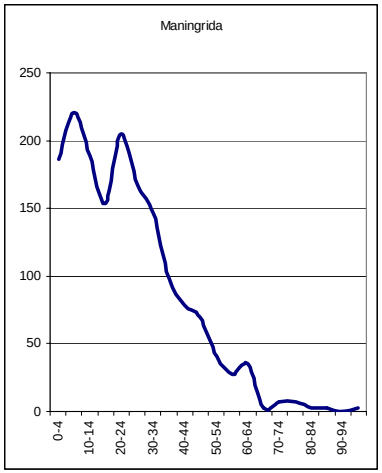


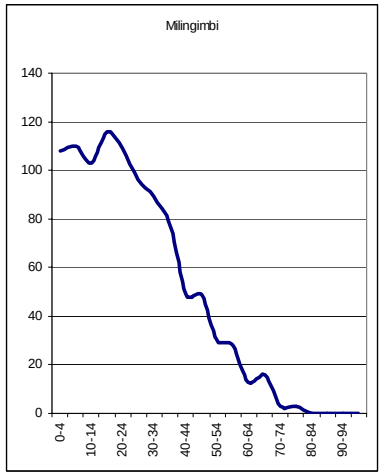


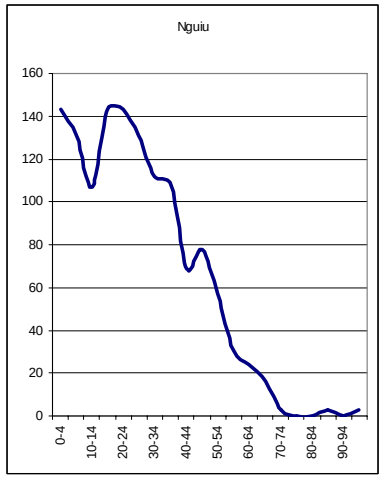


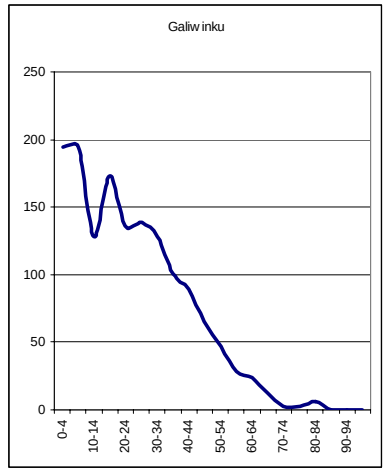


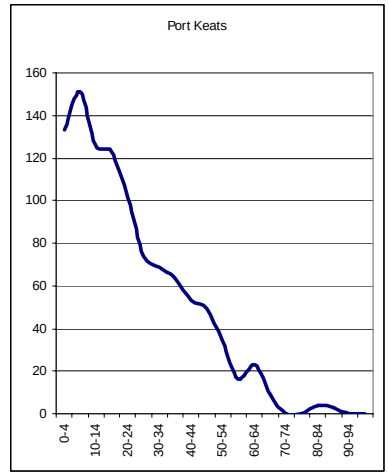
Communities with a predominantly Indigenous population











Acronyms and abbreviations

ABS	Australian Bureau of Statistics
AECC	Australian Electronic Commerce Centre
ACE	Adult and Community Education
ACT	Australian Capital Territory
AFFA	(Department of) Agriculture, Fisheries and Forestry—Australia
ALGA	Australian Local Government Association
AIHW	Australian Institute of Health and Welfare
ALNARC	Adult Literacy and Numeracy Australian Research Consortium
ANTA	Australian National Training Authority
ANZTSR	Australian and New Zealand Third Sector Research
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographic Classification
AUST	Australia
AVETRA	Australian Vocational Education and Training Research Association
BRS	Bureau of Rural Sciences
Cat.	Catalogue number
CD	Collection District
CDEP	Community Development Employment Project
CDMA	Code Division Multiple Access
CRC	Cooperative Research Centre
CRLRA	Centre for Research and Learning in Regional Australia
CURF	Confidentialised Unit Record File
DEET	(Northern Territory) Department of Employment Education and Training
DEST	Department of Employment Science and Training
DHAC	Department of Health and Aged Care
ERIN	Environment Resource Information Network
GNP	Gross National Product
GSP	Gross State Product
IRDB	Integrated Regional Database
IMR	Infant Mortality Rate
NBEET	National Board of Employment Education and Training
NCVER	National Centre for Vocational Education Research
NEIR	National Economic Institute for Research

NRE	(Victorian Department of) Natural Resources and Environment
NSESD	National Strategy for Ecologically Sustainable Development
NSW	New South Wales
NT	Northern Territory
OECD	Organisation for Economic Cooperation and Development
QLD	Queensland
RDI	River Disturbance Index
RRMA	Rural, Remote and Metropolitan Areas
RTI	Regional Telecommunications Inquiry
SA	South Australia
SD	Statistical Division
SEIFA	Socio-Economic Index For Areas
SLA	Statistical Local Area
SSD	Statistical Subdivision
TAS	Tasmania
TS-CRC	Tropical Savannas Cooperative Research Centre
UC/L	Urban Centre/Locality
VIC	Victoria
VET	Vocational Education and Training
WA	Western Australia
WFU	Work and Family Unit