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Indigenous People in the West Kimberley Labour Market

J. Taylor

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ABBREVIATIONS AND ACRONYMS

ABS	Australian Bureau of Statistics
AGPS	Australian Government Publishing Service
AIGC	Australian Indigenous Geographical Classification
ANU	The Australian National University
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASCO	Australian Standard Classification of Occupations
ASGC	Australian Standard Geographical Classification
ATSIC	Aboriginal and Torres Strait Islander Commission
CAEPR	Centre for Aboriginal Economic Policy Research
CDEP	Community Development Employment Projects (scheme)
CD	collection district
CHINS	Community Housing and Infrastructure Needs Survey
DAA	Data Analysis Australia Pty Ltd
DEWR	Department of Employment and Workplace Relations (Commonwealth)
DIA	Department of Indigenous Affairs (Western Australia)
ERP	Estimated Resident Population
FIFO	Fly-In/Fly Out
IA	Indigenous Area
KALACC	Kimberley Aboriginal Law and Culture Centre
KDC	Kimberley Development Commission
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
MLCR	module load completion rate
NATSIS	National Indigenous and Torres Strait Islander Survey (1994)
NATSISS	National Aboriginal and Torres Strait Islander Social Survey (2002)
NCVER	National Centre for Vocational Education Research
SLA	Statistical Local Area
SSD	Statistical Sub-Division
STEP	Structured Training and Employment
DAA	Data Analysis Australia Pty Ltd
TAFE	Technical and Further Education
TFR	Total Fertility Rate
TSA	'tourism' satellite account (ABS)
VTE	Vocational and Technical Education (sector)
WALNA	Western Australian Literacy and Numeracy Assessment (program)

ABSTRACT

The West Kimberley region of Western Australia is the latest potential focus of the minerals boom currently sweeping many parts of remote Australia. The major impetus is provided by the Browse gas project off the North West Shelf, while other mining initiatives are emergent alongside an expansion of tourism and aquaculture industries. These stirrings in the regional economy are set against a background of new administrative arrangements in Indigenous affairs and sustained projected growth in the Indigenous population. Not surprisingly, there have been growing demands for a detailed profile of socioeconomic conditions in the region set within a framework of understanding the dynamics of Indigenous labour demand and supply. In responding to this need, this study injects statistical information and analysis into deliberations regarding development futures and their possible impacts in the region. As such, it also provides a baseline against which any subsequent monitoring of impacts can take place.

ACKNOWLEDGMENTS

This study had its genesis in approaches made to CAEPR by Woodside Energy and agencies of the Western Australia government in 2005 to develop a social and economic profile of the population resident in the West Kimberley. Thanks for their support in financing the study are due to Bev East of Woodside, to Howard Pederson of the Western Australia Department of Local Government and Regional Development, and to Jeff Gooding of the Kimberley Development Commission. I am also grateful to Paul Lane and Patrick Dodson of the Lingiari Foundation in Broome for their tremendous assistance in managing and facilitating the project. Numerous government officials, both Federal and State, were generous of their time in providing data access. Tom Mulholland, of the Western Australian Planning Commission, was especially helpful in explaining the nuances of regional population projections. In the West Kimberley, CDEP managers assisted greatly by clarifying changes to the program. Back at CAEPR, useful comments on early drafts were gratefully received from Jon Altman, Kathryn Thorburn, and Will Sanders while Nic Biddle, Michael Robinson and Geoff Buchanan greatly assisted with data processing and checking. I would also like to thank Hilary Bek for her editorial assistance, John Hughes for his expert design work, and Melanie Durette for proofing.

BACKGROUND AND ANALYTICAL FRAMEWORK

This study had its genesis in approaches made to the Centre for Aboriginal Economic Policy Research (CAEPR) by Woodside Energy and agencies of the Western Australian government in 2005. CAEPR was asked to develop a social and economic profile of the population resident within an area of the West Kimberley potentially influenced by resource developments. The research sought was similar to that prepared by CAEPR for the Kimberley Land Council in 2003 covering that part of the East Kimberley encompassed by the Argyle Diamond Mine Participation Agreement (Taylor 2004). However, practical steps in pursuit of the research objectives were not taken until the Lingiari Foundation was engaged in 2006 to oversee the project, which by then was aimed at taking a more comprehensive view of the current situation and future needs of Indigenous populations across the entire West Kimberley region.

The outcome is a statistical profile of social and economic conditions among Indigenous and non-Indigenous residents of the two West Kimberley Shires of Broome and Derby-West Kimberley. As far as possible, the data presented describe the situation in 2006 at a time of growing demands for a detailed profile of the West Kimberley population set within a framework of understanding the dynamics of Indigenous labour demand and supply. This was also at the outset (or somewhat into the commencement) of the Browse gas project off the North West Shelf, that has the potential to create a major gas production hub in the West Kimberley region along with substantial employment and investment opportunities whether it involves either an onshore or an offshore processing plant (Government of Western Australia 2005b). Other mining initiatives were also emerging (such as the recommissioned Koolan Island and Lennard Shelf operations), and alongside this burgeoning mineral development activity, potential for social and economic change in the region could be found in on-going expansion of the tourism and aquaculture industries, as well as from economic opportunities that might be enabled by native title determinations. All of these stirrings in the regional economy were set against the background of new administrative arrangements in Indigenous affairs and sustained projected growth in both Indigenous and non-Indigenous populations. Thus, in order to anticipate, plan for, and subsequently assess the impact of combined developments, it was timely that a profile or stock-take of existing socioeconomic conditions in the region be undertaken.

Accordingly, this study aims to inject statistical information and analysis into deliberations regarding development futures and their possible impacts in the region, as well as to provide a baseline against which any subsequent monitoring of these impacts can take place. Those involved in such deliberations would include Aboriginal traditional owners, the Kimberley Land Council, native title groups and their representative bodies, other Indigenous community and representative interests, the Kimberley Development Commission (KDC), the corporate sector (in particular here Woodside Energy), the Western Australia Government (especially the Department of Local Government and Regional Development), Shire and Town Councils, and agencies of the Australian government. As such, it is the latest in a growing series of similar profiling studies aimed at establishing functional links between regional demography and economy and the consequent relative socioeconomic status of Indigenous populations.

It is often said (pejoratively) that there is no labour market in remote Australia. Partly for this reason, Indigenous people in receipt of Newstart Allowances have invariably been exempt from the work activity test (at least up until now). The premise here is wrong—a total of 236,845 individuals were employed across remote Australia in 2001 (Taylor 2005). Of these, 27,050 were Indigenous and 209,795 were non-Indigenous. At these levels, the proportion of remote Indigenous adults employed was 42 per cent, and the non-Indigenous equivalent was 67 per cent. Clearly, then, there is a labour market in remote Australia—it is just that Indigenous people are relatively disengaged from it, especially when it is considered that the Community Development Employment Projects (CDEP) scheme accounts for the lion's share of Indigenous employment in regions such as the West Kimberley. Nor do the buoyant economic conditions that currently prevail in Western Australia necessarily guarantee that things might be any different.

To illustrate this we can pre-empt one of the key findings of the present analysis. Annual personal income from mainstream employment accruing to all West Kimberley residents increased six-fold from $41 million to $256 million between 1981 and 2001 on the back of substantial growth in economic activity, and yet the Indigenous share of this income actually fell over the same period from 12 per cent to just 11 per cent. This is despite the fact that Indigenous people comprise 38 per cent of all adults in the region. Coincidentally, over this same period, the level of Indigenous mainstream employment barely increased from 886 in 1981 to just 978 in 2001, while part-time CDEP scheme employment rose to prominence with just over 3,000 participants by the year 2000.

Reasons for this relative mainstream disengagement are varied, but interlinked. Many sites of employment are sporadically located over vast distances and are invariably not found within the actual communities where Indigenous people live. Combined with this is the fact that Indigenous propensity to migrate in search of such employment is low (in contrast to non-Indigenous labour). On the surface, this is low partly because individuals lack the necessary skills and work experience to secure mainstream employment, and partly because of a preference to remain close to country. But there are underlying reasons too, related to the conditions under which low human capital skills are reproduced—low school achievement, overcrowded dwellings, high morbidity, disability, and custody rates—as well as a priority for many people to focus on building Indigenous cultural capital. All of these can detract from higher participation with the mainstream labour market as presently constituted.

To shed some light on the dynamics of labour demand and supply in the West Kimberley, and on some of the key factors that contribute to socioeconomic outcomes, this study develops and presents select social indicators for the Indigenous and non-Indigenous populations of the two West Kimberley shires. It aims to assist in the implementation and subsequent monitoring of regional landholder and stakeholder aspirations to meet goals in terms of Indigenous participation in the regional economy. Ultimately, it seeks to ensure that achievement of these aspirations is managed and not arbitrary—by providing a common information base—and that consequently appropriate benefits from regional economic developments flow to Aboriginal traditional owners and to local communities.

Interestingly, the systematic preparation of social and economic data aimed at understanding the social and economic consequences of planned change, and the processes involved in that change, has been a feature of the public policy landscape in the Kimberley for some years, but mostly in the East Kimberley rather than in the West. Initially, this emerged in response to the development of the Argyle Diamond Mine (Coombs et al. 1989; Dillon 1990; Dixon 1990) and then, more recently, as an adjunct to the Argyle Diamond Mine Participation Agreement (Taylor 2004). While impetus for such work in the East Kimberley arose very much at the insistence of local Indigenous communities (Dillon 1990), the push for the profiling and monitoring regional social and economic conditions in the West Kimberley is now arising from a coalition of Indigenous, corporate and (State) government sources.

From a minerals sector perspective, this reflects a growing recognition that sound community relations and the pursuit of sustainable regional economies provide the necessary foundations for a social licence to operate—and in establishing this social licence to operate, the construction of statistical baseline profiles of social and economic conditions within mine hinterlands (with a focus on establishing the relative situation of Indigenous populations and how this is changing over time) is seen as a crucial input by significant players (Harvey & Brereton 2005). From an Indigenous perspective, it reflects the assertion of a legitimate stake in deliberations regarding regional development, not least on Aboriginal lands. And from a State government perspective, it reflects a desire to ensure the equitable, efficient and sufficient provision of services associated with meeting obligations in regard to citizen rights and policy goals. Accordingly, the current political economy of resource development in areas such as the West Kimberley demands that Indigenous communities are more fully in receipt of, and help determine the nature of, economic opportunities that might arise, and that initiatives for more widespread and long-term sustainable regional development ensue. This is a view increasingly endorsed by resource developers (Harvey 2002).

To support this new coalition of interest, the construction of a statistical baseline helps in establishing the range and quantum of needs for regional planning, in identifying opportunities and constraints for enhanced participation, and in assessing the effectiveness of any subsequent actions undertaken. Thus, the task of profiling lies in the realm of applied demography with a focus on identifying opportunities and constraints for enhanced labour participation. As noted, a common fallacy is that Indigenous labour force participation in remote areas is low because remote areas have no labour market. To assist in understanding the disparity between labour demand and supply, it is useful to quantify those already in work, those who might be employed, and those who (for a variety of reasons) are unlikely to acquire mainstream employment. While this requires a holistic profiling of population characteristics, the present paper focuses on change in the composition of labour demand and participation against the supply-side impacts of demography, education and training.

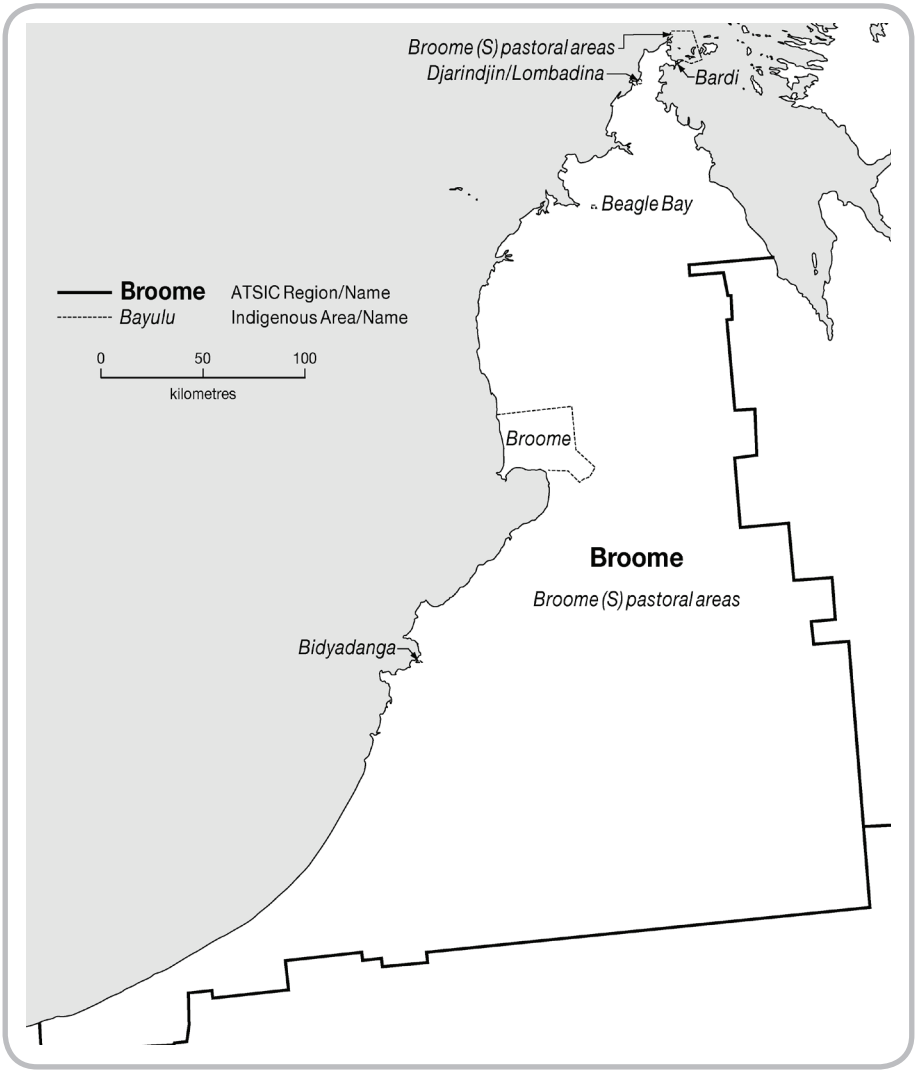
METHODS

While the focus in this report is on profiling existing conditions in the region (to the extent that available data allow), a predictive capacity is also sought through the use of projections of future population and jobs need, thereby laying a foundation for social impact planning as much as social impact assessment. While these tasks seem straightforward enough, the manner in which they have been carried out in particular settings has been varied (Coombs et al. 1989; Kesteven 1986; Kakadu Region Social Impact Study 1997). In the present study, the aim is to follow the template developed first in the East Kimberley and most recently in the Pilbara (Taylor 2004; Taylor & Scambary 2005). This involves the construction of a select range of social indicators compiled using data from a variety of published and unpublished sources including the Census of Population and Housing and administrative data sets held by Commonwealth and Western Australian government departments. While largely desktop in approach, the interpretation of data was greatly assisted by key informants in relevant agencies in Perth, Derby, Broome and Canberra. Because of the specific focus on generating statistical information, reference to literature that describes aspects of social and economic life in the region, both past and present, is limited to instances where this provides a key source of statistical data or assists in its interpretation.

The scope of the profile covers key social and economic features of the Indigenous and non-Indigenous components of the regional population that typically form the basis of policy interest and potential intervention. These include age structure, settlement patterns, labour force status, education and training, income, and welfare. For each of these categories, the aim is to identify and describe the main characteristics of the population and to highlight outstanding features in the data. While assessment of change in each of these is one aim, this is only possible where reliable time series can be compiled.

In profiling the circumstances of Indigenous and non-Indigenous Australians, analysts rely heavily on census data for many key indicators. This has a number of advantages given the comprehensive scope of coverage and the application of standard measures. However, there are drawbacks too, especially for the Indigenous population. First of all, an over-reliance on five-yearly census data means that information on Indigenous populations required, say in 2006, is five years old. There is also the problem of coverage, both in terms of population numbers and population characteristics. Overall in Australia, the undercount of Indigenous peoples is estimated to be around 6–7 per cent, although this varies geographically. Unfortunately, no direct estimate of this is established in sparsely settled areas, although research suggests that it can be substantially higher than 7 per cent (Martin & Taylor 1996; Taylor & Bell 2003). Non-response to census questions is also an issue with relatively high rates of non-response observed for many Indigenous population characteristics (Taylor 1993). While little can be done about non-response for census characteristics, the Australian Bureau of Statistics (ABS) does establish post-censal estimates of the Indigenous population in an attempt to adjust for undercount and non-response to the Indigenous status question, and herein lies a solution to the first problem of coverage raised above.

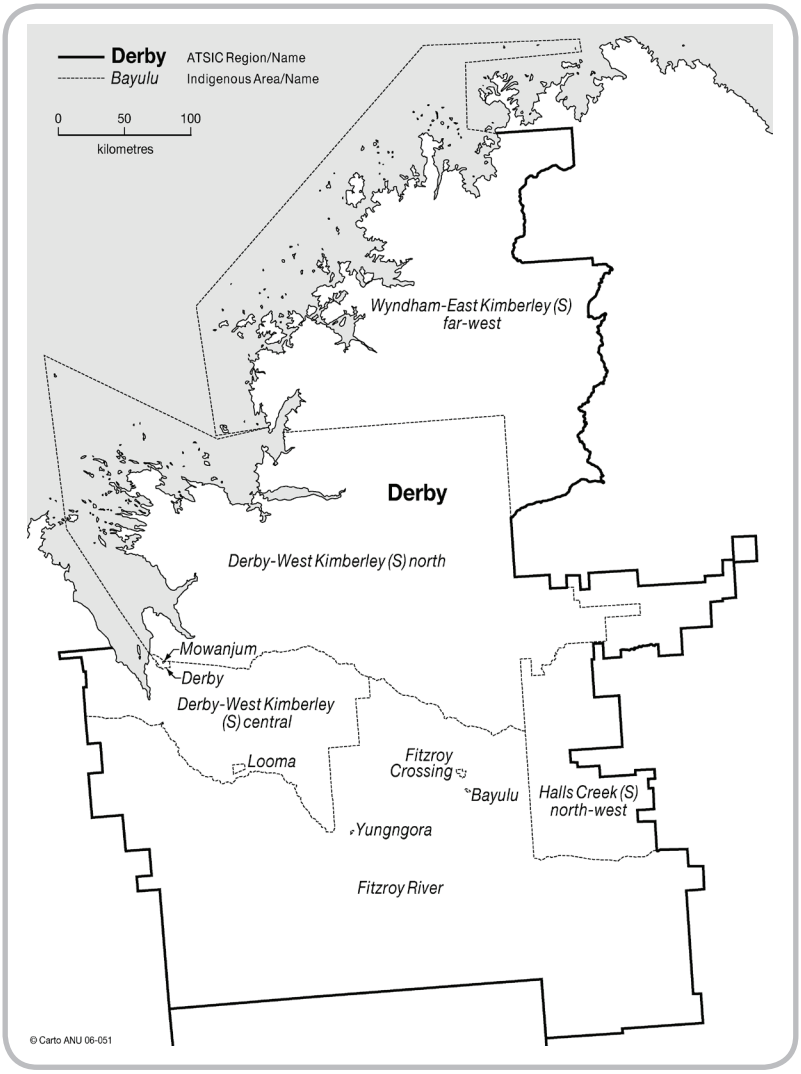
Fig. 1. Statistical geography of the Broome SLA



Source: ABS 2002.

The approach taken in this report is to view the census as a very large sample survey, with the key output being population rates rather than population levels. Rates established net of non-response (on the assumption that the latter are evenly distributed for each population characteristic) can then be applied to population estimates—initially to the estimate for the census year, and then to population projections from the census year on the assumption that the observed rates remain constant. While this assumption of constancy might be seen as unrealistic, it should be noted that one of the (unfortunate) features of many Indigenous social indicators in Western Australia (and more generally) over the past two decades (including labour force

Fig. 2. Statistical geography of the Derby–West Kimberley SLA



Source: ABS 2002.

status, income, education, and housing) has been their relative stability (Hunter 2004; Jones 1994; National Centre for Social Applications of GIS 2003; Taylor 1997; Taylor & Roach 1994). It is also true that social indicator rates, by their very nature, are unlikely to drastically alter over short periods of time requiring, as they do, a substantial shift in levels in order to effect change. This is especially so among rapidly growing populations, such as found in the West Kimberley.

Perhaps more telling, from the point of view of data quality, are concerns about the capacity of census (and other) data to provide a meaningful representation of the social and economic status of Indigenous people in the region. With census data, for example, there are concerns about the cultural relevance of information obtained from an instrument principally designed to establish the characteristics of mainstream Australian life (Morphy 2002; Smith 1991). Thus, having observed the 2001 Census count first hand at a Northern Territory outstation, Morphy (2002) has described the process of enumeration as a 'collision of systems' and concludes that census questions often lack cross-cultural fit and produce answers that can be nonsensical in terms of describing the reality of Indigenous social and economic life. Equally, while social indicators report on observable population characteristics, they reveal nothing about more behavioural population attributes such as individual and community priorities and aspirations. In short, when set against mainstream outcomes they selectively describe the relative condition of Indigenous people, but contain no Indigenous voice.

STATISTICAL GEOGRAPHY

The two Local Government Areas of Broome and Derby-West Kimberley are readily identified within the Australian Standard Geographical Classification (ASGC) as Statistical Local Areas (SLAs) and they combine to form the Fitzroy Statistical Sub-Division (SSD, referred to throughout the report as the West Kimberley).

As shown in Figs 1 and 2, these SLAs can be sub-divided within the Australian Indigenous Geographic Classification (AIGC) into 15 Indigenous Areas (IAs) including Bardi, Beagle Bay, Bidyadanga, Broome, Broome Pastoral, and Djarindin/Lombadina in the Broome SLA; and Bayulu, Derby, Derby-West Kimberley Central, Derby-West Kimberley North, Fitzroy Crossing, Fitzroy River, Looma, Mowanjum, and Yungnora in the Derby-West Kimberley SLA. However, some discrepancy in overlap with the AIGC occurs since the Derby (Malarabah) Aboriginal and Torres Strait Islander Commission (ATSIC) Region is somewhat larger that the Derby-West Kimberley SLA as it includes the Halls Creek North West IA and the Wyndham East Kimberley Far West IA that form part of the Halls Creek and Wyndham East Kimberley SLAs respectively. However, it is a simple matter to exclude these IAs from the analysis.

Thus, the study region extends from the Eighty Mile Beach area south of Bidyadanga, east to Wangkatjungka, then northwards almost to the Prince Regent River, and west past Cockatoo Island to Bardi at the head of King Sound. As such, it covers the traditional lands of many Indigenous peoples and encompasses three major towns and centres of mainstream economic activity (Broome, Derby and Fitzroy Crossing). It also incorporates some 117 discrete Indigenous communities and outstations. Of course, in adopting this geography, this is not to deny that the social reality, both for Indigenous and non-Indigenous residents, is one of social, cultural, and economic connectedness between this region and elsewhere. One manifestation of this is the frequent movement of individuals and families into and out of the region, making an unambiguous definition of the 'regional' population problematic.

DEMOGRAPHY OF THE WEST KIMBERLEY

A variety of counts and estimates of the Indigenous and non-Indigenous populations of the West Kimberley are available. For example, the ABS provides a *de facto* count of people who were deemed to be present in each SLA on census night (7 August 2001 at the most recent census for which data were available at the time of writing). In addition, there is a *de jure* count of people across Australia who indicated that one of the two West Kimberley SLAs was their usual place of residence on census night. These two counts are also available for the IAs found within the study region. Finally, in recognition of the fact that the census fails to count some people, the ABS develops post-censal estimates of the 'true' population by augmenting their SLA 'usual residence' counts according to an estimate of those missed (net undercount), as well as other demographic adjustments. This produces an Estimated Resident Population (ERP), which, in effect, becomes the official population of each SLA for the purposes of electoral representation and financial distributions.

It should be emphasised that official ERPs are only available at the SLA-level Therefore, estimates of the population for constituent parts of each SLA, such as IAs, have to be derived by a ratio allocation of the ERP. In terms of the present exercise, and in regard to the quite separate structural circumstances of most Indigenous people in the region, it is helpful that separate calculations of Indigenous and non-Indigenous ERPs have been produced by the ABS since 1996 using differential undercount rates, and by distributing (pro rata) those usual residents who did not answer the ethnicity question on the census form.

One constraint on the detailed measurement of demographic change within the region over the past two decades is the fact that the ABS has altered its statistical geography several times during this period. Although the two SLAs of Broome and Derby-West Kimberley have remained intact, many collection district (CD) boundaries have changed and the number of CDs has also varied with far more in existence now than 20 years ago. Additional geography was also introduced in 1996 with the creation of IAs and their sub-category Indigenous Locations for the purposes of disseminating Indigenous community profile data (including for non-Indigenous populations).

Thus, in some cases, Indigenous (and non-Indigenous) profile data are available for specific communities and towns (Bardi, Beagle Bay, Bidayanga, Lombadina, Bayulu, Looma, Mowanjum, and Yungnora), whereas other smaller communities are subsumed as part of larger IAs. However, since 1992, the ABS has endeavoured to gather information on estimated population numbers for all discrete Indigenous communities, no matter how small, via the Community Housing and Infrastructure Needs Survey (CHINS). Discrete communities are defined by the ABS as geographic locations that are bounded by physical or cadastral boundaries, and inhabited or intended to be inhabited predominantly by Indigenous people (more than 50%), with housing and infrastructure that is either owned or managed on a community basis (ABS, 2000: 66). A prototype CHINS was developed on a State-by-State basis in 1992, followed by more nationally integrated surveys in 1999 and 2001, with the latest administered ahead of the 2006 Census.

Table 1. Indigenous and non-Indigenous census counts and post-censal estimates: West Kimberley region[1], 2001

	Indigenous	Non-Indigenous	Not Stated	Total
Census count (de facto)	8,306	15,990	2,503	26,799
Usual residence count (de jure)	8,367	9,809	2,287	20,463
Estimated usual residents (ERP)	9,453	12,030	Pro rated	21,483

Note: 1. Broome and Derby-West Kimberley SLAs combined.
Source: ABS 2001 Census of Population and Housing, customised tables.

Table 2. Usual residence counts by Indigenous status: Broome SLA, 1981–2001

	Indigenous	Non-Indigenous	Indigenous status not stated	Total
1981	1,884	1,617	96	3,597
1986	2,495	3,200	348	6,043
1991	3,011	4,414	103	7,528
1996	3,328	5,294	883	9,505
2001	4,157	7,513	1,000	12,670

Source: ABS 2001 Census of Population and Housing, customised tables.

Table 3. Usual residence counts by Indigenous status: Derby-West Kimberley SLA, 1981–2001

	Indigenous	Non-Indigenous	Indigenous status not stated	Total
1981	2,610	2,690	155	5,455
1986	2,955	3,382	271	6,608
1991	3,683	2,809	187	6,679
1996	3,995	2,138	239	6,372
2001	4,210	2,296	1,287	7,793

Source: ABS 2001 Census of Population and Housing, customised tables.

POPULATION SIZE

At the 2001 Census, a total of 26,799 persons were counted by the ABS as present (de facto) on census night (7 August) in the two West Kimberley SLAs of Broome and Derby-West Kimberley (Table 1). Of these, 8,306 indicated an Indigenous status in response to the census question on ethnicity (with 262 indicating Torres Strait Islander status), and almost twice as many (15,990) indicated non-Indigenous status. Out of the entire population counted within Australia on census night, a noticeably smaller total (20,463) nominated one of these West Kimberley SLAs as their usual place of residence (de jure) with those identifying Indigenous and non-Indigenous status being much closer in number (8,367 and 9,809). However, 2,272 usual residents (11% of the total) did not state their Indigenous status. As a post-census exercise, the ABS distributes these non-responses pro rata, and establishes an estimate of census undercount. In 2001, this produced a final Indigenous ERP of 9,453 and a non-Indigenous ERP of 12,030, with an overall total for the West Kimberley as a whole of 21,483 (Table 1).

A key feature of the population levels shown in Table 1 is the fact that the non-Indigenous population counted as usual residents of the West Kimberley (9,809) was as much as 40 per cent lower than the number counted as present on census night (15,990). In other words, almost half of the non-Indigenous population present in the East Kimberley at any given time is visiting the region from elsewhere in Australia, at least during the dry season when the census is conducted. This scale of visitation, plus the fact that visitors to the region may have somewhat different characteristics from people resident in the region, means that any comparative analysis of regional population characteristics that informs regional planning should be conducted using usual residence data only.

However, one drawback to the use of usual residence data for the portrayal of population characteristics is the growth over time of non-response to the census question on Indigenous status. This can be seen from Tables 2 and 3 for the Broome and Derby-West Kimberley SLAs respectively. At the 1981 Census, only 96 (2.7 per cent) usual residents in the Broome SLA did not state their Indigenous status; the equivalent figure in Derby-West Kimberley was 155 (2.8 per cent). At the 2001 Census, these proportions were considerably higher at 7.9 per cent and 16.5 per cent. Thus, in the case of Derby-West Kimberley at least, it is not possible to ascribe Indigenous status for almost one fifth of the population. In this event, population characteristics are simply pro rated according to the reported Indigenous/non-Indigenous distribution.

Although ERP figures purport to represent 'true' levels of the Indigenous and non-Indigenous populations of the region, when interpreting these it is important to consider that official ERPs have been observed to differ from other (unofficial) population estimates generated by alternate means (Taylor & Bell 2001, 2003). It is also necessary to take into account those methodological tendencies within the special procedures adopted by the ABS in remote communities and town camps in Northern Australia that are likely to have produced an undercount of Indigenous people (Martin & Taylor 1996; Sanders 2002), and it is debatable whether the standard ERP methodology adequately compensates for these shortcomings (Taylor & Bell 2003).

Table 4. Ratio allocation of the 2001 Broome SLA ERP to Indigenous Areas in the Broome SLA

Indigenous Area	Per cent of Indigenous SLA UR count	Per cent of Non-Indigenous SLA UR count	Derived Indigenous ERP	Derived Non-Indigenous ERP	Derived total ERP	Indigenous per cent of total derived ERP
Bardi	7.4	0.2	349	17	366	95.3
Beagle Bay	7.2	0.3	339	25	364	93.1
Bidyadanga	12.4	0.4	584	34	618	94.5
Broome	62.1	96.3	2,926	8,170	11,096	26.4
Broome pastoral	6.0	2.4	283	204	487	58.1
Djarindin/ Lombadina	4.9	0.4	231	34	265	87.2
Broome SLA	100.0	100.0	4,712	8,484	13,196	35.7

Note: UR = usual residence.
Source: ABS 2002 and author's own calculations.

Table 5. Ratio allocation of the 2001 Derby-West Kimberley SLA ERP to Indigenous Areas in the Derby-West Kimberley SLA

Indigenous Area	Per cent of Indigenous SLA UR count	Per cent of Non-Indigenous SLA UR count	Derived Indigenous ERP	Derived Non-Indigenous ERP	Derived total ERP	Indigenous per cent of total derived ERP
Bayulu	6.1	0.1	287	5	292	98.3
Derby	27.7	69.9	1,315	2,479	3,794	34.6
Derby-WK central	5.8	4.0	272	140	412	66.0
Derby-WK north	2.1	3.2	100	114	215	46.9
Fitzroy Crossing	17.9	14.3	851	507	1,358	62.6
Fitzroy River	21.6	7.3	1,022	258	1,280	79.9
Looma	6.5	0.4	310	13	323	96.0
Mowanjum	6.5	0.1	310	5	315	98.7
Yungnora	5.8	0.7	274	24	298	91.6
Derby-WK SLA	100.0	100.0	4,741	3,546	8,287	57.2

Note: UR = usual residence.
Source: ABS 2002 and author's own calculations.

SUB-REGIONAL POPULATION ESTIMATES

As noted, ERP figures are available only at SLA-level. One way to develop similar estimates of the population resident within different parts of the study region is to divide up the West Kimberley Indigenous and non-Indigenous 2001 ERPs according to the observed pro rata share of the relevant IAs as observed from usual residence counts. Results of this ratio allocation for the constituent parts of Broome SLA are shown in Table 4, and for Derby-West Kimberley SLA in Table 5. Thus, the 2001 Indigenous usual residence count in the town of Broome (2,514) represented 62 per cent of the Indigenous usual residence count for the whole of the Broome SLA. This same percentage of the Indigenous ERP for the SLA produces a 2001 Indigenous population estimate for Broome of 2,926. In turn, the equivalent non-Indigenous proportion was as high as 96 per cent, which produces an estimate of 8,170 for the non-Indigenous population of Broome. All told, then, the 2001 ERP for the town of Broome is calibrated at 11,096, just over one quarter of which (26%) was Indigenous.

Table 6. Derived[1] and actual ERPs[2] by Indigenous status: Broome SLA, 1981–2001

Year	Indigenous	Non-Indigenous	Total	Indigenous per cent of total
1981	2,019	2,261	4,280	47.1
1986	2,761	3,162	5,923	46.6
1991	3,184	4,703	7,887	40.4
1996	3,760	6,008	9,768	38.4
2001	4,712	8,484	13,196	35.7

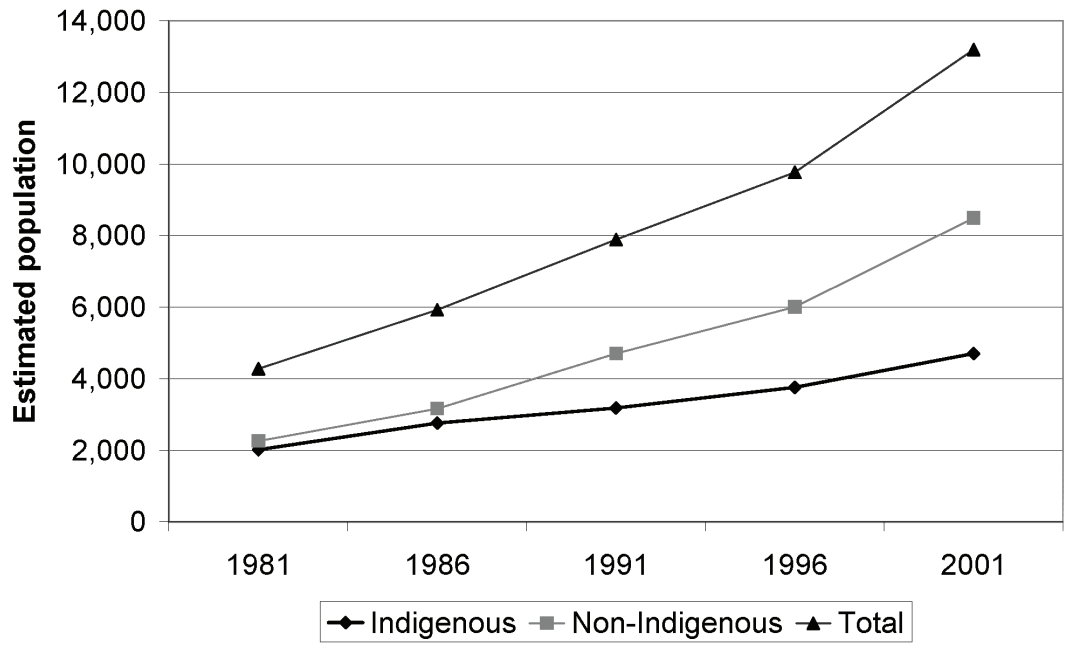
Notes: 1. Indigenous and non-Indigenous estimates derived from total ERPs for the years 1981, 1986 and 1991.
2. ABS generated Indigenous and non-Indigenous ERPs for 1996 and 2001.

Table 7. Derived[1] and actual ERPs[2] by Indigenous status: Derby-West Kimberley SLA, 1981–2001

Year	Indigenous	Non-Indigenous	Total	Indigenous per cent of total
1981	2,815	3,515	6,330	44.5
1986	3,229	3,272	6,501	49.7
1991	3,971	3,048	7,019	56.6
1996	4,347	2,165	6,512	66.7
2001	4,741	3,546	8,287	57.2

Notes: 1. Indigenous and non-Indigenous estimates derived from total ERPs for the years 1981, 1986 and 1991.
2. ABS generated Indigenous and non-Indigenous ERPs for 1996 and 2001.

Fig. 3. Indigenous and non-Indigenous estimated population levels: Broome SLA, 1981–2001



Sources: Indigenous and non-Indigenous estimates derived from total ERPs for the years 1981, 1986 and 1991; ABS generated Indigenous and non-Indigenous ERPs for 1996 and 2001.

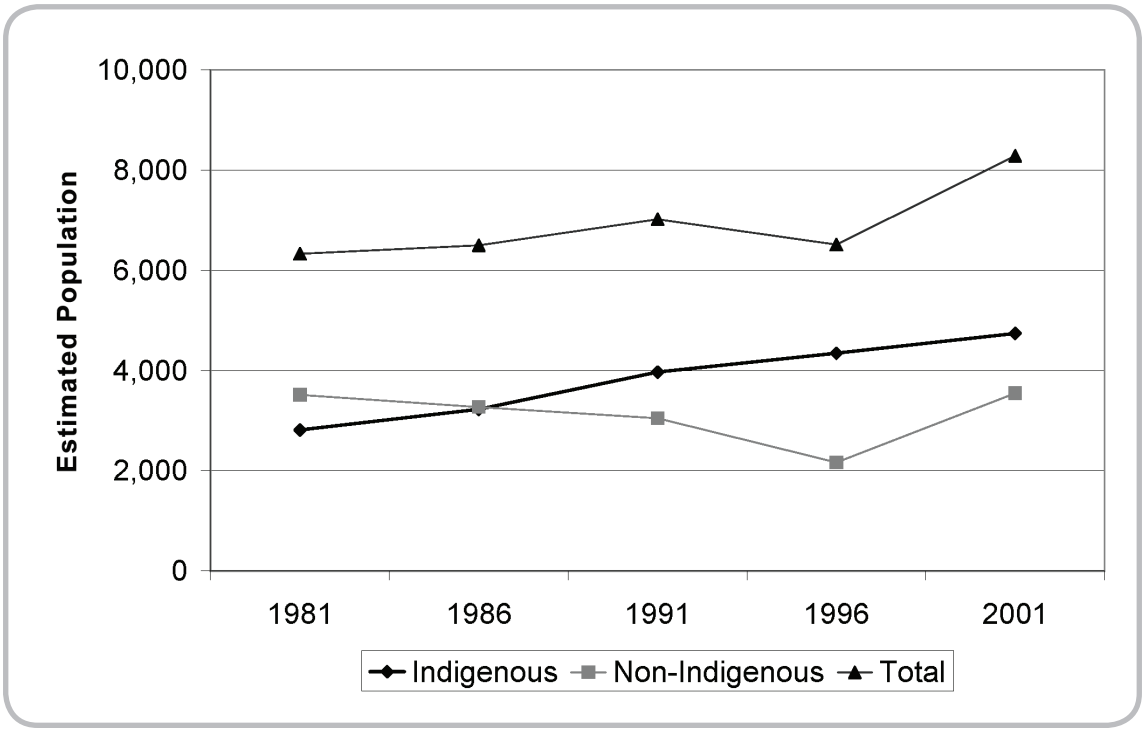
Away from Broome and its immediate surrounding pastoral areas, it is clear that Indigenous people are by far the majority population in the Shire, comprising more than 90 per cent over much of the geographic area.

Similar calculations for the Derby-West Kimberley SLA (Table 5) reveal less concentration of population in a single locality and a greater relative Indigenous presence, even in the main town of Derby (35%). Once again, the key overall feature is an Indigenous majority population across much of the region.

POPULATION GROWTH

Although ABS has only generated Indigenous and non-Indigenous population estimates by SLA since 1996, it is possible to extend these back to 1981. This is done by adding a pro rata distribution of those who did not report their Indigenous status to the usual residence count at each census year, and then to add an approximation of census undercount based on the levels suggested by the 1996 and 2001 ERPs. The results of this manipulation are shown in Tables 6 and 7. The same data are shown graphically in Figs 3 and 4.

Fig. 4. Indigenous and non-Indigenous estimated population levels: Derby-West Kimberley SLA, 1981–2001



Sources: Indigenous and non-Indigenous estimates derived from total ERPs for the years 1981, 1986 and 1991; ABS generated Indigenous and non-Indigenous ERPs for 1996 and 2001.

This reveals a recent history of steady growth in both Indigenous and non-Indigenous populations. Up to 1986, Indigenous and non-Indigenous population levels in the Broome SLA were more or less equivalent and rising at a similar pace. However, non-Indigenous numbers have risen substantially through the 1990s with the result that the 15 years from 1986 to 2001 witnessed a steady decline in the Indigenous share of regional population, albeit due solely to non-Indigenous migration to the town of Broome. In Derby-West Kimberley the opposite trend is apparent with the Indigenous share of resident population persistently rising over time, although with some reversal in the late 1990s due to the establishment of the Curtin Detention Centre in 1999 at the Curtin Air base near Derby accommodating over 800 detainees and staff.

SERVICE POPULATIONS

Mention has been made of the fact that a relatively large proportion of the population present in the West Kimberley at any one time is comprised of individuals whose usual place of residence is elsewhere. At the 2001 Census a total of 6,336 people, or 24 per cent of the enumerated population fell into this category.

Table 8. Indigenous and non-Indigenous Place of Enumeration and Usual Residence census counts in the Broome and Derby-West Kimberley SLAs, 2001

	Broome SLA		Derby-West-Kimberley SLA	
	Place of enumeration	Usual residence	Place of enumeration	Usual residence
Indigenous	4,179	4,157	4,127	4,210
Non-Indigenous	12,440	7,513	3,550	2,296
Total[1]	17,811	12,670	8,988	7,793

Note: 1. Includes Indigenous status not stated.

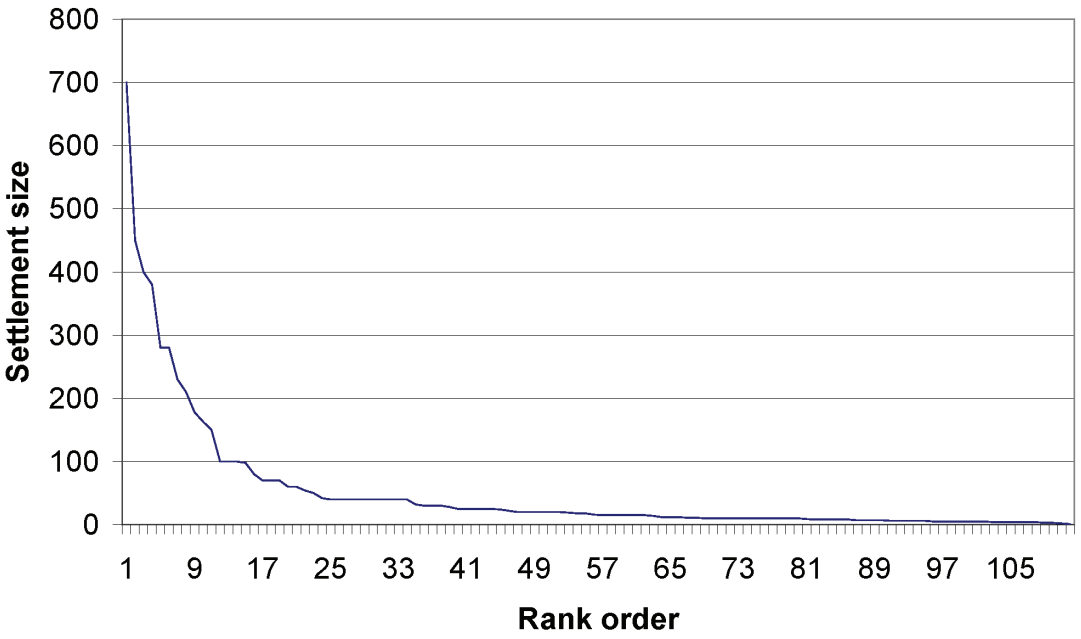
Source: ABS 2001 Census of Population and Housing, customised tables.

As indicated in Table 8, the vast majority of these were non-Indigenous people. In the Broome SLA, 40 per cent of the enumerated non-Indigenous population had a usual residence elsewhere in Australia, while in Derby-West Kimberley temporary visitors accounted for more than one third of the enumerated non-Indigenous population (35%). Typically, in a region such as this, most such non-residents would be tourists while others would be temporary workers (Bell & Ward 2000; Taylor, Brown & Bell In Press). However, this picture of temporary numbers provided by the Census is not necessarily representative of other times of the year since many forms of temporary movement are highly seasonal. Also, the criteria employed to define usual residence creates interpretive difficulties.

The Australian census defines usual residence as that address at which the respondent lives for six months or more during the census year. However, it is difficult to assess how seasonal workers, who spend little time in any one place, might interpret this question. In the same way, the notion of a single 'usual' residence is scarcely meaningful to many Indigenous people for whom 'home' involves multi-locale relationships (Taylor & Bell 2004). One readily identifiable group of circular migrants whose temporary moves are specifically excluded from the census are boarders at schools and colleges, who are instructed to regard their school or college, rather than their home address, as their usual residence. The 2001 Census explicitly also recognised that some people have no usual address, however for people who gave this response usual address was recorded for output as 'Not Stated' and so exact numbers of persons who do not have a usual address cannot be determined. A further issue is under-enumeration. The overall undercount at the 2001 Census was just 1.8 per cent, but the figure for people counted away from home was 12.2 per cent (ABS 2003).

Notwithstanding these uncertainties, it can be said that additions to the resident population of the West Kimberley caused by the temporary movement of people into the region is significant since it more than offsets any population loss due to out-migration. While this adds to pressure on selected local services, it also generates extra demand and therefore enhances economies of scale. To this extent, temporary migrants form an important element of the regional economy. By their very nature, though, temporary movers are elusive in the context of formal statistical collection, and while this may lead to some undercounting of

Fig. 5. Rank size distribution of discrete Indigenous communities in the West Kimberley, 2001



Source: ABS CHINS 2001 Confidentialised Unit Record File.

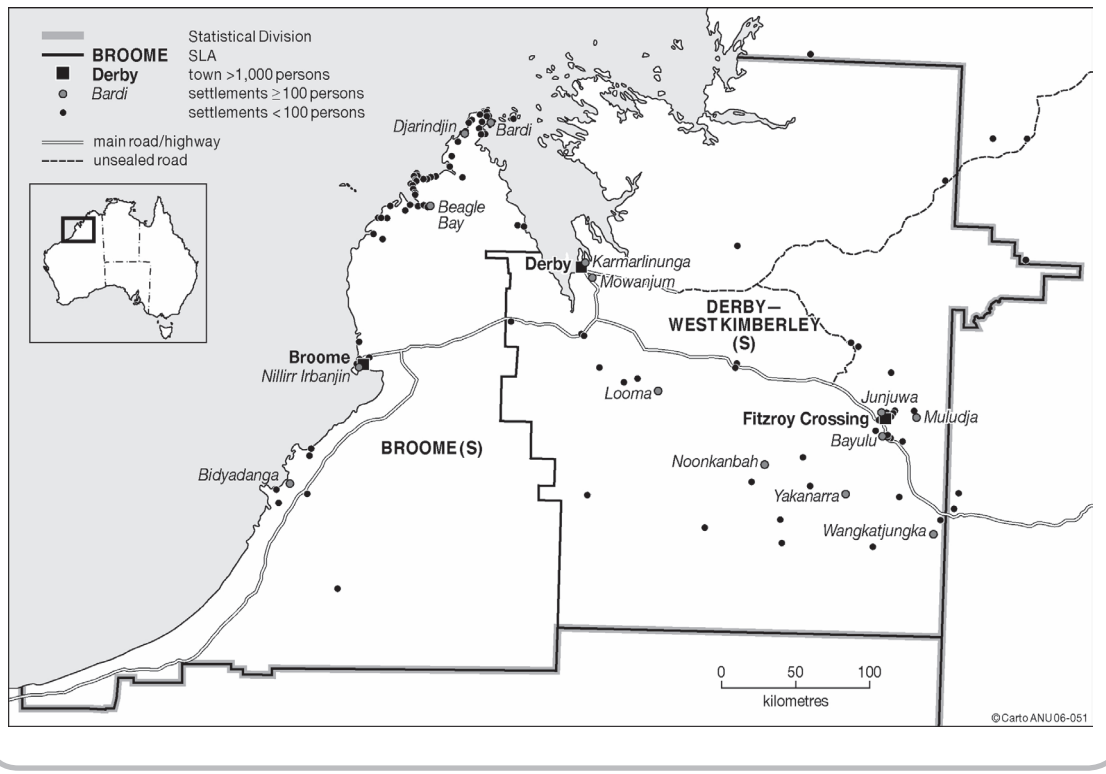
the population at census time, it can also produce wide discrepancies between client-based population lists (for example in the form of clinic registers), and official head counts (Taylor & Bell 2003). Resolution of such differences is no easy matter, and is beyond the scope of the present study. Suffice to say that such a variation underscores the fact that the numbers actually demanding and utilising services in the region may often exceed official estimates.

POPULATION DISTRIBUTION

The nature and extent of Indigenous participation in the mainstream regional economy is greatly affected by the spatial distribution and residential structure of the population. One way of depicting this distribution has already been presented using IAs (Tables 4 and 5). These reveal that slightly more than half of the Indigenous population in the West Kimberley (54%) is resident in one of the three urban centres compared to 93 per cent of the non-Indigenous population, thereby emphasising the more spatially widespread and rural basis for Indigenous livelihoods in the region.

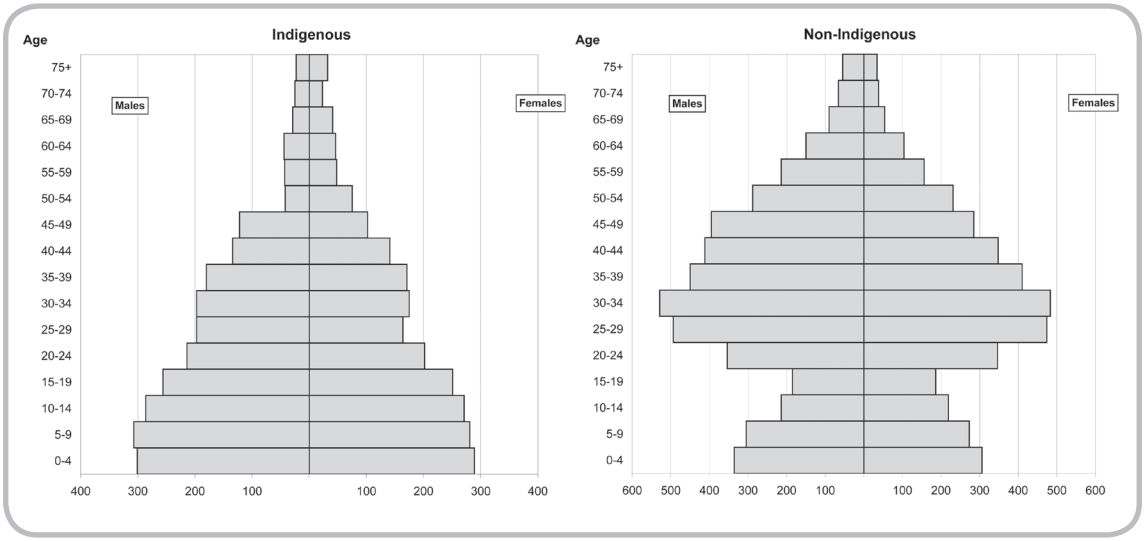
A more detailed representation of this population distribution is provided by the ABS' Community Housing and Infrastructure Needs Survey (CHINS). This survey is conducted ahead of the national census and establishes an estimate of the resident population of all discrete Indigenous communities across the nation. According to the 2001 CHINS, a total of 117 discrete Indigenous communities were located within the West Kimberley and these had a collective estimated population of 5,570. The CHINS reports estimates of the usual resident population of each community based on information provided to survey collectors by key informants in community housing organisations, councils and resource centres, although it is likely that these are estimates of service populations than actual usual residents. While most of these communities are small rural settlements, a number are town camps while some are larger service centres and townships. Fig. 5 ranks these settlements by population size. This shows eight communities of between 200 and 700 persons including (in rank order) Bidyadanga, Looma, Bardi, Junjuwa, Beagle Bay, Mowanjum, Noonkanbah and Djarindjin. Below this there are 15 communities of between 50 and 199 persons, while at the bottom of the hierarchy is a long tail of almost 100 very small communities of less than 50 persons.

Fig. 6. Distribution of discrete Indigenous communities in the West Kimberley, 2001



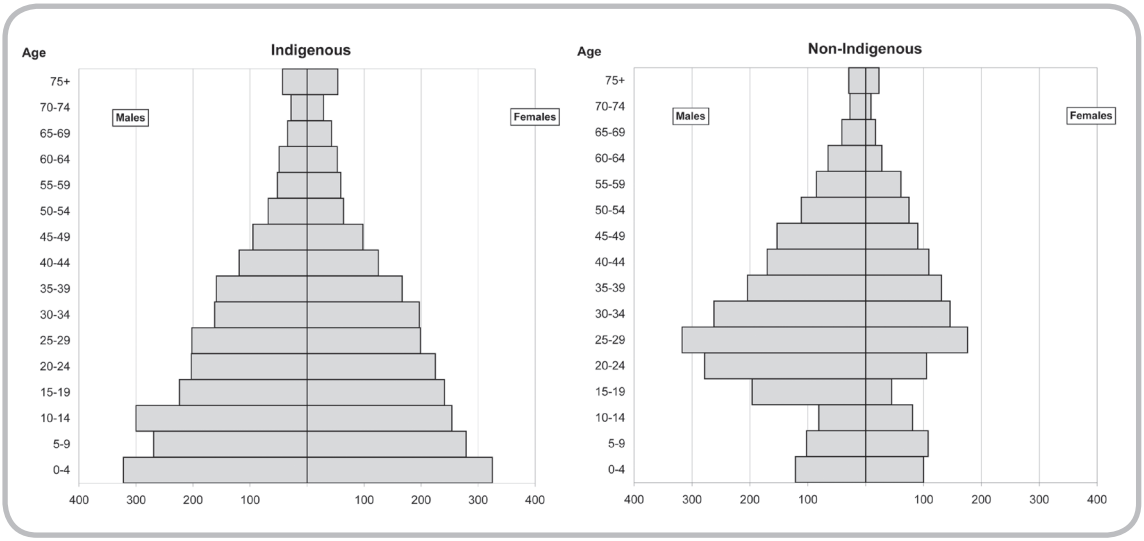
Source: Government of Western Australia Department of Indigenous Affairs, Perth.

Fig. 7. Distribution of the Indigenous and non-Indigenous populations of Broome SLA by age and sex, 2001



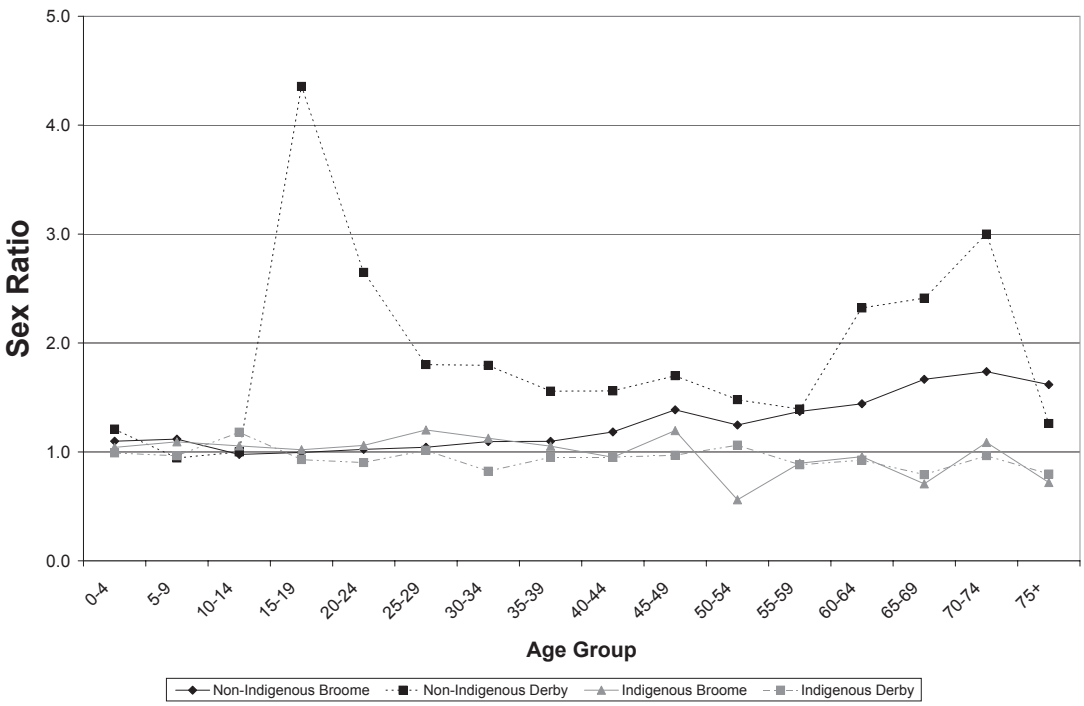
Source: 2001 ABS ERP.

Fig. 8. Distribution of the Indigenous and non-Indigenous populations of Derby-West Kimberley SLA by age and sex, 2001



Source: 2001 ABS ERP.

Fig. 9. Indigenous and non-Indigenous sex ratios by age: Broome and Derby-West Kimberley SLAs, 2001



Source: 2001 ABS ERP.

This amalgam of settlements is distributed widely across the West Kimberley, although some clustering is evident around the coastline of the Dampier Peninsula, across the pastoral country in the Fitzroy Valley to the south and east of Fitzroy Crossing, and away from larger parent communities such as Bidyadanga (Fig. 6). This spatial fragmentation, borne of continuing attachment to traditional country, is an enduring feature of the West Kimberley social and cultural landscape. From a labour market perspective it generates variable conditions across the region for economic participation ranging from customary economic activities associated with land and sea management and cultural tourism to those focused more on urban-based industrial or service sectors.

AGE COMPOSITION

An additional demographic feature that has implications for current economic status and future economic need is the contrast between the age distribution of the Indigenous and non-Indigenous populations. Figs 7 and 8 illustrate this contrast with age pyramids for the two West Kimberley SLAs. In both Broome and

Table 9. Indigenous percentage of male and female populations by five-year age groups: Broome SLA, 2001

Age group	Males	Females
0-4	47.3	48.6
5-9	50.2	50.7
10-14	57.2	55.3
15-19	58.0	57.4
20-24	37.7	36.9
25-29	28.5	25.7
30-34	27.1	26.6
35-39	28.6	29.4
40-44	24.5	28.8
45-49	23.6	26.4
50-54	12.7	24.5
55-59	16.7	23.5
60-64	22.7	30.7
65-69	24.4	43.2
70-74	27.5	37.7
75+	29.5	48.5
Total	34.6	36.9

Source: ABS customised ERPs.

Derby-West Kimberley the Indigenous population has a broad base that rapidly tapers with advancing age. This reflects a combination of continued high fertility (a Total Fertility Rate (TFR) of 3.6 in Broome and 3.2 in Derby-West Kimberley) and high adult mortality. Uniformity in the decline of population with age also suggests net inter-regional migration balance. Finally, it is significant that relatively large numbers of women remain in the childbearing ages, with even larger cohorts beneath them, as this indicates substantial population momentum with associated high potential for future growth in numbers.

By contrast, the non-Indigenous age distributions are typical of populations subject to selective inter-regional migration producing net gains among those of working age and their accompanying children, and net losses in the teen ages and at retirement. These effects are most noticeable in the Derby-West Kimberley SLA, which also displays a strong bias in favour of males throughout the working age groups. Underlying this pattern are high rates of inter-regional population turnover as reported for the non-Indigenous population across remote Australia (Taylor, Brown & Bell 2006). For example, such was the movement of non-Indigenous population in and out of the Derby-West Kimberley SLA between 1996 and 2001 that the census-derived

Table 10. Indigenous percentage of male and female populations by five-year age groups: Derby-West Kimberley SLA, 2001

Age group	Males	Females
0-4	72.7	76.5
5-9	72.5	72.1
10-14	78.7	75.8
15-19	53.3	84.3
20-24	42.2	68.2
25-29	38.9	53.1
30-34	38.2	57.4
35-39	43.8	56.0
40-44	41.2	53.4
45-49	38.3	52.1
50-54	38.0	46.0
55-59	38.0	49.2
60-64	43.0	65.4
65-69	45.3	71.7
70-74	50.9	76.3
75+	59.7	70.1
Total	51.0	64.9

Source: ABS customised ERPs.

gross migration rate was as high as 979 per thousand. In the Broome SLA it was slightly less but still very high at 861 per thousand. Despite the substantial growth of the non-Indigenous population observed over the past two decades, what these high levels of population turnover reflect is the continuing role of this region within the Western Australian economy as a place of selective migration tied to short-term employment opportunity (Bell & Maher 1995).

One of the most striking demographic impacts of differential migration in and out of the West Kimberley is the very different sex ratio for the resident Indigenous and non-Indigenous populations. This is shown for the two SLAs in Fig. 9. The Indigenous sex ratio in both regions is fairly close to parity except after age 50 due to relatively higher mortality among Indigenous males. The non-Indigenous sex ratios, on the other hand, are quite different, with males increasingly prominent in the Broome Shire beyond age 40, whilst the population of the Derby-West Kimberley Shire is overwhelmingly male at all ages, especially in the 15–24 age group and older ages.

Table 11. Percentage age distribution of the Indigenous population counted in communities and towns within the West Kimberley, 2001

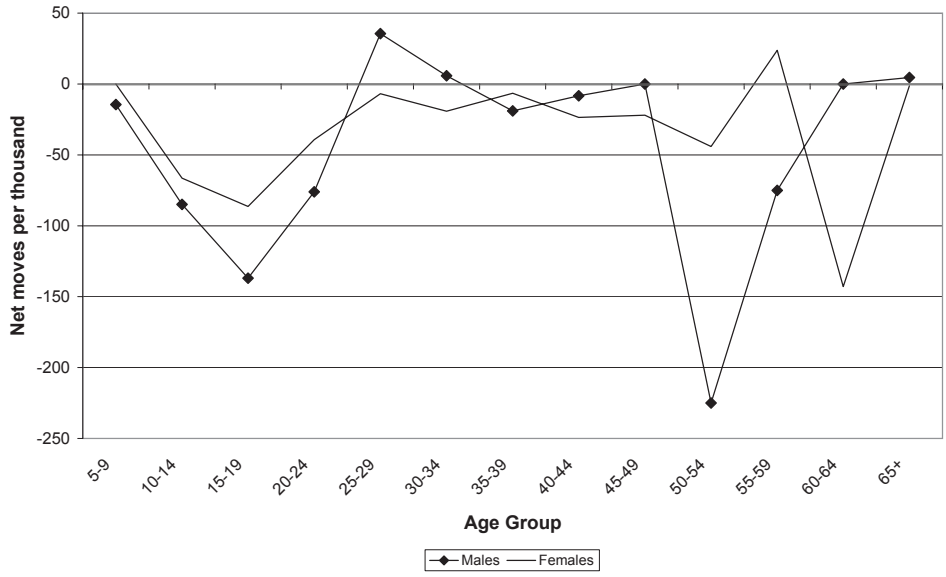
	Communities			Towns		
	Males	Females	Total	Males	Females	Total
0-4	12.6	13.7	13.2	13.0	12.4	12.7
5-14	24.8	23.0	23.9	25.9	23.6	24.8
15-24	19.5	20.2	19.9	17.2	18.1	17.7
25-44	27.9	27.9	27.9	29.3	29.7	29.5
45-64	11.0	11.1	11.0	10.9	11.5	11.2
65+	4.2	4.1	4.1	3.7	4.7	4.1
Total (%)	100.0	100.0	100.0	100.0	100.0	100.0
Total (n)	1,933	1,807	3,740	2,234	2,435	4,669

Source: ABS 2002.

As a consequence, the Indigenous share of the regional population varies substantially according to age group, as Tables 9 and 10 reveal. Overall, Indigenous males and females account for around one-third of the population resident in the Broome Shire, but when this is broken down by age group we can see that Indigenous people account for around half of the population under 20, around one-quarter throughout most of the working age groups, lower still for males aged 50–59, and rising to around one-third again at older ages (due to out-migration of older non-Indigenous people). In Derby-West Kimberley, the pattern is more varied. Overall, Indigenous males account for one-half of the population, whilst two-thirds of all females are Indigenous. Once again, these proportions vary with age with Indigenous males and females accounting for over three-quarters of all children and youth, while the female population of Derby-West Kimberley is overwhelmingly Indigenous at almost all ages.

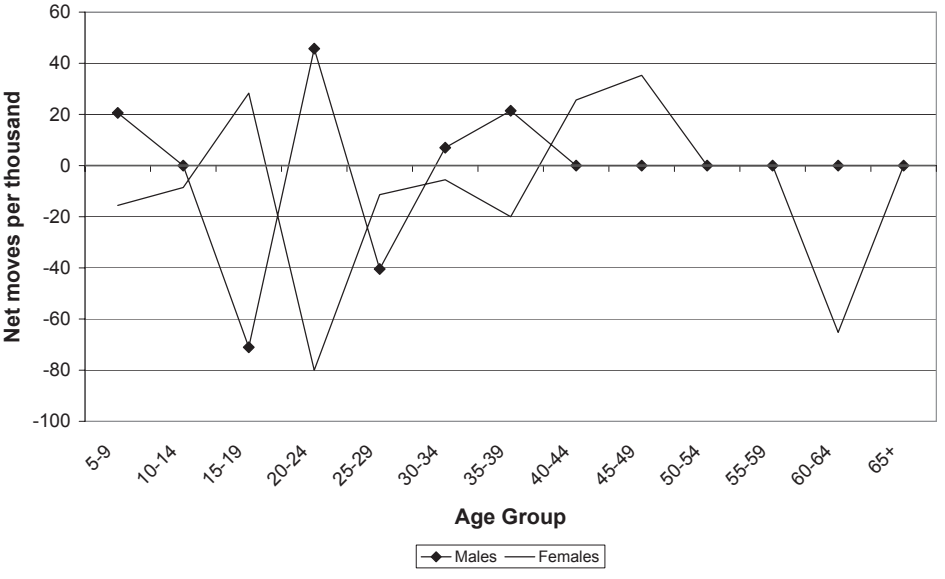
For the population within the study region, place of enumeration data are utilised to examine any variation in the age distribution of those Indigenous people counted in the three towns of Broome, Derby and Fitzroy Crossing as opposed to those counted in rural communities. The idea here is that the towns may be more attractive to certain age groups since they contain high schools, more housing options and post-secondary training facilities, and are also the focus of most mainstream employment in the region. Table 11 examines this proposition for Indigenous residents of the region and the data show almost no variation between town and country populations. If anything, the age profile in towns is slightly older, especially among females, but the proportion of the population in the young adult age group of 15–24 is lower in towns than in communities. In both sets of locations, the age pattern is very similar to that described by the ERP for the West Kimberley as a whole, with around 40 per cent of the population under 15 years of age and very low proportions over 65 years.

Fig. 10. Indigenous age-specific net migration rates: Broome SLA, 1996–2001



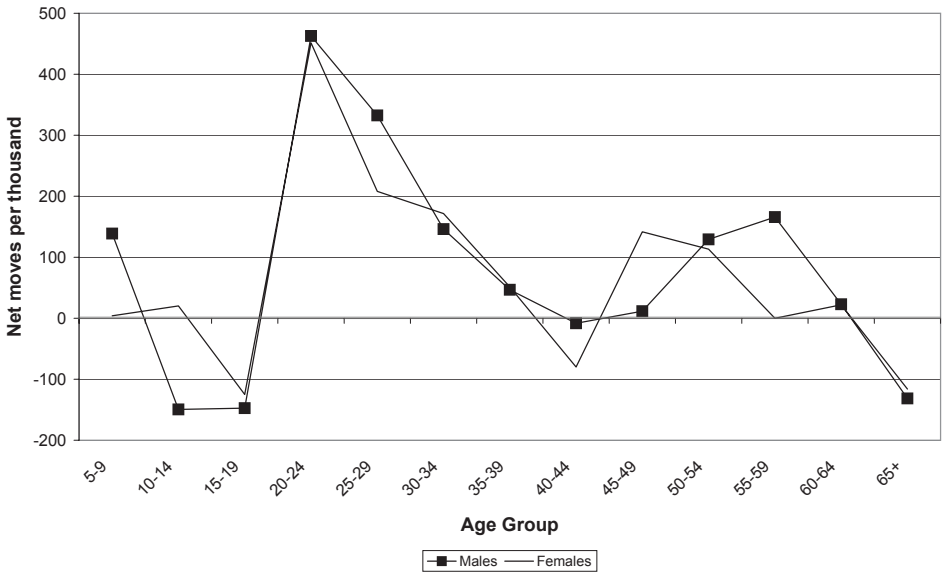
Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Fig. 11. Indigenous age-specific net migration rates: Derby-West Kimberley SLA, 1996–2001



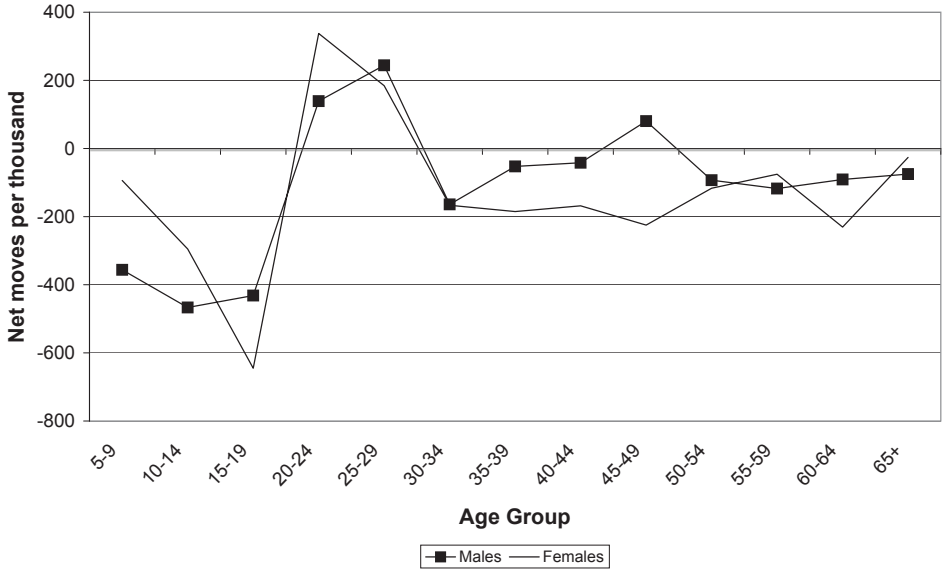
Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Fig. 12. Non-Indigenous age-specific net migration rates: Broome SLA, 1996–2001



Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Fig. 13. Non-Indigenous age-specific net migration rates: Derby-West Kimberley SLA, 1996–2001



Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

This lack of age differentiation between town and country is suggestive of a lack of rural-urban migration (as opposed to short-term rural-urban circulation which undoubtedly does occur).

INTER-REGIONAL MIGRATION

As noted, part of the distinctive age structure, especially of the non-Indigenous population of the West Kimberley, is determined by the level and age-specific composition of inter-regional migration. The only source of data available with which to quantify population moves in and out of the two SLAs is the five-yearly census which asks those enumerated in each region about their usual place of residence one and five years previously. These data show a net migration loss of Indigenous population for the 1996–2001 of 137 persons in the Broome SLA and 102 persons in the Derby-West Kimberley SLA. The non-Indigenous population also had a net loss of 170 in Derby-West Kimberley, but a net migration gain of 728 in the Broome SLA. Overall, a net gain of just over 300 was recorded for the West Kimberley as a whole, though with some obvious sub-population and regional variation.

While the level and direction of this overall dynamic is of interest in terms of the contribution of migration to regional population growth (substantial in Broome but not Derby-West Kimberley between 1996 and 2001), a more practical requirement for applying this dynamic in a projection model is to establish and validate age-specific rates of migration. These rates are presented in Figs 10–13. In the Broome SLA (Fig. 10), it would appear that net migration loss of Indigenous population occurs at almost all ages for both males and females, but especially among teenagers and older people. While this may reflect a predominance of outward movement for schooling and hospital care, the lack of an underlying model of the causes of such movement makes it is difficult to assume constancy in this pattern of age-specific rates for the purposes of population projection, not least because it is partly counter-intuitive in displaying net migration balance at parental ages. This inability to confidently interpret the age and sex pattern of census net migration is further underlined by the data for Derby-West Kimberley (Fig. 11) that reveal a highly erratic pattern with male and female rates often moving in direct opposition with no apparent intuitive link discernable between parental and younger age groups. Lack of confidence in the use of census-based Indigenous migration rates across remote Australia is not uncommon (Taylor & Bell 2001; Taylor, Brown & Bell 2006).

As for non–Indigenous migration in the Broome SLA (Fig. 12), net gains in primary school years and among adults aged 20 through to 39 are indicative of a shift into the region (and predominantly into the town of Broome) of young families. Net gains are also evident at ages over 45 years and this may reflect an influx of older professional workers or early retirees (the qualification is added here since net migration loss is observed among those aged 65 years and over). Net losses in secondary school years and late teens are likely to reflect the common pattern of movement out of remote regions to the south west of the State for education and training purposes.

In the Derby-West Kimberley Shire (Fig. 13), high rates of net migration loss are evident among the population of school-age and among those aged 15–19 years with very high net losses among females in this age group.

Corresponding net losses at parental ages over 30, especially among females, points to a drain from the region of family groups. With net gains restricted to younger adults in their twenties, a persistence of this overall age pattern of migration would eventually lead to substantial impact on the household composition of the non-Indigenous population with consequences for housing supply, education and health services.

INDIGENOUS AND NON-INDIGENOUS POPULATION PROJECTIONS

Planning processes in Indigenous communities have all too often relied on dated demographic information. This creates a sense of uncertainty in assessing the adequacy of policy to address shortfalls in social and economic infrastructure. As such, policy development has typically been reactive to needs as they become evident (for example, in terms of post facto responses to housing shortages), as opposed to being proactive in seeking to anticipate and plan for expected requirements. However, being proactive requires a measure of future requirements for infrastructure and services, and this is something that is only rarely achieved for Indigenous communities. This is not the case for mainstream communities throughout Australia where the approach to settlement planning is much more prospective.

For example, State and local government planning authorities routinely develop future scenarios and often seek budgetary allocations on the basis of anticipated needs. A key element in this process is the production of small-area population projections or forecasts. While the ABS provides official projections of State and Territory and SLA populations, the individual States and Territories, in turn, also produce regional and local area projections, often down to the local government area level (Bell 1992) and not least in Western Australia (Western Australian Planning Commission 2005). For these purposes a standard cohort-component projection methodology is generally applied, and this practice is also adopted here to project the Indigenous populations of the two West Kimberley SLAs from 2001 to 2021. These Indigenous projections are then subtracted from official total population projections to gain an approximation of the future non-Indigenous population.

INDIGENOUS PROJECTION ASSUMPTIONS

The cohort-component method carries forward the preliminary 2001 Indigenous ERP for the two SLAs to 2021 by successive five-year periods. The projection is based simply on ageing the ERPs by five-year blocks, subjecting each regional population to the same age- and sex-specific mortality, fertility and net migration regimes as follows:

- Survival rates from the ABS Indigenous life table for Western Australia/South Australia are applied (ABS 2004a). While these may reflect somewhat higher survival than presently pertains in the West Kimberley region, by holding these constant for the projection period the aim is to incorporate some degree of convergence with current overall State levels in line with recent evidence of absolute improvement in Indigenous life expectancy over the long term in the Northern Territory (Condon et al. 2004; Thomas et al. 2006).

- Age specific fertility rates based on births to Indigenous women in the Western Australian Midwives Notification System are applied and held constant in the absence of any regionally-based model of fertility decline. These data produce a TFR of 3.6 for Broome and 3.2 for Derby-West Kimberley for the period 1999–2003, which is substantially higher than the equivalent Indigenous TFR of 2.6 for Western Australia as a whole and is more in line with rates reported from similar remote regions of Northern Australia (Taylor 2004; Taylor & Bell 2001). Also added are births to non-Indigenous mothers with Indigenous partners. These are calculated using a partial paternity rate using Indigenous births to non-Indigenous mothers from ABS registered births data. This adds an average of 62 births each year in Broome and 32 births each year in Derby-West Kimberley to the sum total of Indigenous births in the region.
- In the absence of an operational model of net migration, and in light of the erratic patterns of age-specific net migration observed in Figs 10 and 11, net migration is held at zero for all ages.
- No allowance is made for population change via shifts in Indigenous identification. This is a conservative assumption and similar to that adopted by the ABS low series Indigenous projections.

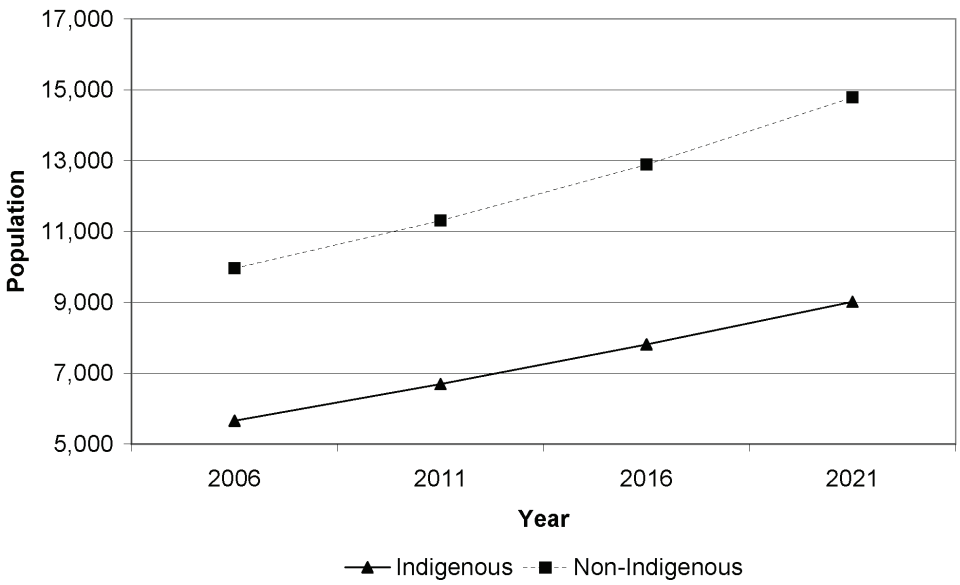
The actual projection is conducted separately for males and females in five-year blocks for each SLA from 2001 to 2021. Thus, projected births for the 2001–2006 period are added to the existing 2001 population and each cohort is then subjected to respective survival rates to arrive at an estimate of the population in each age group in 2006. This process is continued through to 2021.

Table 12. Indicative Indigenous and non-Indigenous projected populations of the Broome and Derby-West Kimberley SLAs: 2006 and 2021

	Projection 2006	Projection 2021[1]	Net change	Per cent change
		Broome		
Indigenous	5,658	9,016	3,358	59.3
Non-Indigenous	9,936	14,793	4,857	48.9
Total SLA	15,594	23,809	8,215	52.7
		Derby-West Kimberley		
Indigenous	5,615	8,650	3,035	54.0
Non-Indigenous	4,082	6,449	2,376	58.0
Total SLA	9,697	15,099	5,402	55.7

Note: 1. Adjusted to align with Western Australian Planning Commission high series assumptions.
Sources: Author's own calculations and Western Australian Planning Commission 2005.

Fig. 14. Indicative Indigenous and non-Indigenous projected populations of the Broome SLA: 2006—2021

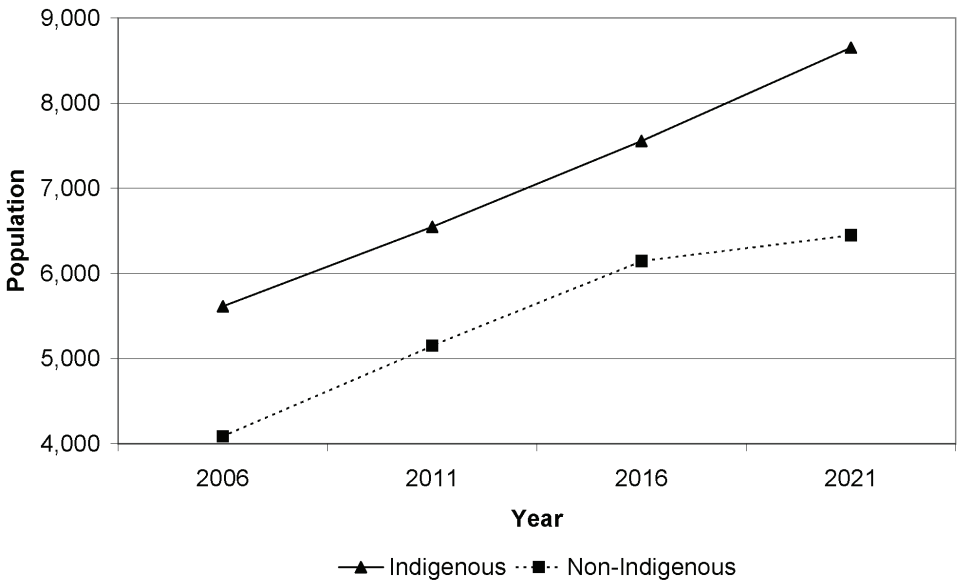


Sources: Author's own calculations and Western Australian Planning Commission 2005.

NON-INDIGENOUS PROJECTION ASSUMPTIONS

Conceptually, the approach adopted here to project the non-Indigenous population is more straightforward than for the Indigenous projection, but crude. These are derived simply as a residual between the Indigenous projections and projections of the total regional population. Projections for the total population have been produced for each SLA by the Western Australian Planning Commission using a cohort component methodology and 2001 ABS ERPs as the base (Western Australian Planning Commission 2005). While the fertility, mortality and migration assumptions underlying these official projections are broadly in line with those used for the Indigenous projections, one significant difference is the application of a 1.4 per cent annual transfer of non-Indigenous to Indigenous population in the Kimberley SD due to an assumed rising propensity for individuals to identify as part of the Indigenous population. This is a similar type of assumption to that employed in the high series Indigenous projections of the ABS and it has the effect of conferring a variable fertility and mortality regime on the regional population as this transfer works its way through the projection. In effect, it means that in regions with a relatively large Indigenous component in their population, such as the Kimberley, Indigenous population growth will be relatively high and will comprise a substantial component of total population growth.

Fig. 15. Indicative Indigenous and non-Indigenous projected populations of the Derby-West Kimberley SLA: 2006–2021



Sources: Author's own calculations and Western Australian Planning Commission 2005.

Thus, before using the Indigenous projections as a basis to derive non-Indigenous estimates in the manner described above, some adjustment to the Indigenous projections is required in order to bring them into line with the assumptions inherent in the Planning Commission figures. The adjustment deployed here is crude but effective. It involves summing the equivalent of a 1.4 per cent annual growth to the base Indigenous ERP for each SLA over the projection period and then inflating the Indigenous projections by this same amount. This produces an approximation of the growth to Indigenous population implicit in the Planning Commission methodology.

ADJUSTED INDIGENOUS AND DERIVED NON-INDIGENOUS PROJECTIONS

The result of this crude adjustment to the base Indigenous ERP is to produce an implied non-Indigenous population level for each SLA as the residual from the projections of total population for 2006 and 2021 as per the Planning Commission's output. The figures produced are shown in Table 12 and in graphical format in Figs 14 and 15.

In the Broome Shire, the outcome is an Indigenous population that is growing more rapidly than the non-Indigenous population with the result that the Indigenous share of population will increase over the next 15

years from 36 per cent to 38 per cent. In the Derby-West Kimberley Shire Indigenous and non-Indigenous growth rates are the same (at 3% per annum) and the Indigenous share of population will hold steady at 57 per cent. Based on this high series projection, the overall Indigenous share of the West Kimberley population will rise slightly from a current 44 per cent to 45 per cent by 2021.

When combined, these SLA projections are very different to those prepared for the Fitzroy SSD for the Western Australia Department of Indigenous Affairs (DIA) by Data Analysis Australia (DAA) Pty Ltd (Government of Western Australia 2005a) (Table 13). In explaining this difference, the first point to note is that the DAA base year (2001) Indigenous ERP is lower than that produced by the ABS for the Fitzroy SSD by as much as 1,080. In addition, the DAA Indigenous projections from this base are subject to a lower annual growth rate over the projection period (1.5% for 2006–2021 compared to 3.0%). In addition, the DAA non-Indigenous projections imply a 1.6 per cent annual growth compared to 2.8 per cent in the Western Australian Planning Commission projections. Admittedly, these rates derive from different projection assumptions, but the size of the resulting outcomes, especially for the Indigenous population, is notable. One consequence is the very different scenario for future population shares. As we have seen, the Western Australian Planning Commission figures point to the Indigenous share of the West Kimberley population rising from 44 per cent in 2006 to 45 per cent by 2021, while the alternate scenario based on the DAA calculation has the Indigenous share of regional population more or less stable at 40 per cent.

At one level, this simply underscores that projections are entirely dependant on their base level populations and the population change parameters applied in the algorithm. For this reason it is common to canvass a range of possible projection outcomes based on varying assumptions regarding falling/rising/stable fertility

Table 13. Comparison of Indigenous and non-Indigenous population projections for the West Kimberley, 2006–2021

	2006	2021	Change (n)	Annual growth (per cent)
		Western Australian Planning Commission[1]		
Indigenous	11,273	17,666	6,393	3.0
Non-Indigenous	14,018	21,242	7,224	2.8
Total	25,291	38,908	13,617	2.9
		Data Analysis Australia Pty Ltd[2]		
Indigenous	8,952	11,197	2,245	1.5
Non-Indigenous	13,432	16,970	3,538	1.6
Total	22,384	28,167	5,783	1.5

Note: 1. Based on Table 12.
2. Based on Government of Western Australia 2005a.

and mortality and varying assumptions about net migration. As we have seen, in the Western Australia Planning Commission projections, assumptions about changes in the propensity of individuals to identify as Indigenous in population statistics is another potential variable. As deployed here, this variable adds to Indigenous growth. Given the gradual decline in Indigenous women's fertility observed nationally (Kinfu & Taylor 2003) an argument could also be made for lowering Indigenous TFRs in the West Kimberley to, say, converge half-way to the present Indigenous TFR for Western Australia. This would have the effect of deflating growth. Clearly there is substantial heuristic potential around projections, but it is advisable to pursue this using plausible assumptions drawn from observed (regional) behaviour. As no such recorded observations exist, the practice here is to calculate a single low series set of Indigenous projections.

LOW SERIES INDIGENOUS PROJECTIONS

Low series Indigenous population projections by five-year age group for the period 2006—2021 are shown for the Broome and Derby-West Kimberley SLAs in Tables 14 and 15, together with numeric and percentage change in levels. Before considering these and other outputs from the Indigenous projections it is important to note that these low series projections are inherently conservative as the contrast with the 'high' series projections implied in the official Western Australian Planning Commission figures shown in Table 13 will show. However, because they are based on a more conservative set of assumptions they are likely to be more robust and for this reason they are deployed here. Basically, whatever conclusions might be drawn from these projections about future levels of social policy need, it can safely be said that these would be minimum scenarios. In truth, the 'real' projected Indigenous populations are likely to fall somewhere between the low series presented here and the 'high' series shown in Table 13.

As shown, the low series projections indicate a rise in the Indigenous population of Broome from 5,319 in 2006 to 7,506 by 2021 (an annual growth rate of 2.3%), and an increase in Derby-West Kimberley from 5,274 to 7,131 (an annual growth rate of 2.0%). As for percentage changes by age group, while the rates of growth are highest over the age of 50, numerically the largest gains are at younger ages. However, shifts in the size of individual five-year age groups are as much a function of the shape of the base ERP population and the overall ageing of prior cohorts and some of the resulting variability in growth rates by age group can be ironed out by aggregation. This also has the advantage of focussing on ranges that typically form the target of policy intervention, as shown in Tables 16 and 17.

The selection of age groups is dictated somewhat by the availability of ERP data at five-year intervals only. Thus, the infant years leading up to compulsory schooling are identifiable as 0–4 years, but for the years of compulsory schooling we are forced to use 5–14 years. Thereafter, we can identify the transition years from school to work as ages 15–24 years, while the prime working age group is identified here as ages 25–54. In Australian labour force statistics the population in scope for economic activity is typically all adults aged 15 years and above in line with international standards that impose a lower, but not an upper, age limit. However, given the evidence for premature ageing in the Indigenous population in the context of high levels

Table 14. Indigenous population of the Broome SLA by five-year age group: 2006 and 2021

Age group	Projection 2006	Projection 2021	Net change	Per cent change
0-4	787	1,058	271	34.3
5-9	588	963	375	63.8
10-14	587	876	289	49.3
15-19	553	778	225	40.7
20-24	501	576	75	15.0
25-29	409	566	157	38.4
30-34	352	525	173	49.0
35-39	360	466	106	29.4
40-44	336	370	34	10.2
45-49	259	306	47	18.1
50-54	206	298	92	44.8
55-59	105	260	155	147.6
60-64	77	182	105	136.4
65-69	72	125	53	73.6
70-74	53	57	4	7.5
75+	73	100	27	37.0
Total	5,318	7,506	2,188	41.1

Source: Author's own calculations.

of adult mortality and morbidity (Divarakan-Brown 1985; Earle & Earle 1999), a separate aged category is identified here including all those over the age of 55 years.

The results for 2006 indicate Indigenous infant populations of around 15 per cent and 14 per cent of the respective regional totals, while the 'school-age' populations account for just over one-fifth. Those in the transition years from school to work form a substantial sub-group of just under one fifth of the regional totals, while the prime working-age group (25–54) of almost 2,000 in each region comprises more than one-third of the total and is the largest single social policy grouping. By comparison, the aged populations are relatively small, even given the lower level at which this is set. However, if we look at how these groups are projected to grow over the next 15 years, the projections in both point to substantial increases in children and school age populations, but with the greatest numeric expansion among those of prime working age

Table 15. Indigenous population of the Derby-West Kimberley SLA by five-year age group: 2006 and 2021

Age group	Projection 2006	Projection 2021	Net change	Per cent change
0-4	734	947	213	29.0
5-9	645	854	209	32.5
10-14	547	783	236	43.2
15-19	550	725	175	31.8
20-24	459	632	173	37.7
25-29	421	528	107	25.4
30-34	392	521	129	32.9
35-39	348	428	80	23.0
40-44	312	382	70	22.4
45-49	230	342	112	48.7
50-54	178	291	113	63.5
55-59	118	243	125	106.0
60-64	94	161	67	71.3
65-69	82	109	27	33.0
70-74	59	61	2	3.4
75+	105	124	19	18.1
Total	5,274	7,131	1,857	35.2

Source: Author's own calculations.

between 25 and 54 years. There are also clear indications of population ageing with consequences for the scale of aged care service requirements.

Whatever assumptions are adopted for projections, from a practical point of view they are useful for encouraging and developing forward-looking proactive policy. Aside from allowing consideration of emerging service levels, one example that is given some attention in the current discussion concerns future regional labour demand and supply. By applying labour force participation rates to the projected working-age populations, it is possible to estimate the future size of the Indigenous and non-Indigenous resident labour forces. If likely future trends in employment numbers can also be established, then the quantum of need for additional job creation may be calculated according to specified or agreed employment levels. This exercise is conducted in the next section and represents a regionalised version of similar calculations of Indigenous employment demand developed at the national level (Hunter & Taylor 2001; Taylor & Hunter 1998).

Table 16. Distribution of the Indigenous population by select age groups: Broome SLA, 2006–2016

Age group	2006	2021	Change (n)	Change (per cent)
0-4	787	1,058	271	34.4
5-14	1,175	1,840	665	56.6
15-24	1,054	1,354	300	28.5
25-54	1,922	2,530	608	31.6
55+	381	724	343	90.0
Total	5,319	7,506	2,187	41.1

Source: Authors' own calculations.

Table 17. Distribution of the Indigenous population by select age groups: Derby–West Kimberley SLA, 2006–2016

Age group	2006	2016	Change (n)	Change (per cent)
0-4	734	947	213	29.0
5-14	1,192	1,638	446	37.4
15-24	1,010	1,357	347	34.4
25-54	1,880	2,492	612	32.6
55+	458	698	240	52.40
Total	5,274	7,132	1,858	35.2

Source: Authors' own calculations.

INDIGENOUS PARTICIPATION IN THE REGIONAL LABOUR MARKET

While it is true that the overall employment rate for Indigenous people in the West Kimberley as a whole rose from around 39 per cent of all adults in 1981 to 54 per cent in 2001, net gains in employment over this period were due entirely to the expansion of CDEP scheme (now program) activities. This is underlined by the fact that the employment rate excluding CDEP (described here as the mainstream employment rate) actually fell from 39 per cent in 1981 to only 19 per cent in 2001. To be fair, some of this decline reflects a substitution effect due to the gradual introduction of CDEP, with many jobs that might otherwise have been classified as part of the mainstream labour market (especially in the provision of education, health and municipal-type services) being absorbed (or enabled) by the scheme. In effect, though, the decline in

the Indigenous mainstream employment rate only serves to emphasise the rise to dominance of CDEP in the regional Indigenous labour market. In 1981, there were no CDEP schemes in the West Kimberley, and the 886 Indigenous people recorded in employment by the census were therefore (by definition) to be found in the mainstream labour market. By 2001 there were eight CDEP schemes in the Broome SLA and 17 in Derby-West Kimberley, and the census of that year counted 1,721 Indigenous usual residents who were CDEP employees in both SLAs. Compared to this, the 2001 census counted only 978 Indigenous usual residents in the mainstream (non-CDEP) workforce.

This situation presents a marked contrast to the experience of non-Indigenous residents of the West Kimberley. Over the same 20 year period, the level of mainstream employment among non-Indigenous residents of the region increased by 127 per cent and in 2001 the mainstream employment rate for non-Indigenous usual residents stood at 76 per cent, underlining the very reason why most non-Indigenous adults are resident within the region—for employment, as is the case across much of remote Australia (Taylor, Brown & Bell 2006).

Thus, while the regional labour market has grown in both size and complexity, Indigenous mainstream participation has receded. In effect, the past 20 years have witnessed a singular shift from an historical Indigenous association with private sector employment, largely in the pastoral industry, to a contemporary

Table 18. Labour force status rates for Indigenous and non-Indigenous usual residents of the Broome and Derby-West Kimberley SLAs, 2001

	Employed		Unemployed	Not in the labour force	Total 15+
	CDEP	Mainstream			
			Broome SLA		
Indigenous	26.7	23.4	5.9	44.0	100.0
Non-Indigenous	0.8	75.6	3.7	19.9	100.0
Total	8.6	59.9	4.4	27.1	100.0
			Derby-West Kimberley SLA		
Indigenous	41.9	15.5	3.9	38.7	100.0
Non-Indigenous	3.3	76.2	2.5	18.0	100.0
Total	25.8	40.9	3.3	30.0	100.0
			Total West Kimberley		
Indigenous	34.3	19.5	4.9	41.3	100.0
Non-Indigenous	1.4	75.7	3.4	19.5	100.0
Total	14.4	53.5	4.0	28.1	100.0

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

reliance on the government sector in the form of CDEP. Almost two-thirds (64%) of Indigenous employment in the West Kimberley is now in CDEP programs. Aside from CDEP, the largest single category of adults in terms of labour force status are those not in the labour force (41% of all Indigenous adults compared to just 19% of non-Indigenous adults). However, even this level of CDEP scheme engagement is likely to have been an underestimate. Data made available by ATSIC for the year 2000 indicated a total of 3,058 CDEP scheme participants across the West Kimberley—over 1,000 more than recorded by the census a year later. Reasons for this sizeable gap in figures are unclear, but no doubt they include different definitions of CDEP participation (the census is concerned with employment in the past week, whereas administrative participation at the time in question remained intact even if actual work on the scheme was intermittent). There is also the fact of census undercount to consider. Recognition of these different estimates of participation levels is important since, as we shall see, if the census count of CDEP is used as a base then the numbers in the scheme can be said to have increased substantially in recent years, whereas if we use the ATSIC participant figure as the base then the numbers in the scheme appear to have barely altered, and if anything are now trending down.

This structural gap between the labour force status of Indigenous and non-Indigenous adults has significant consequences for relative economic status, as well as for consideration of future options regarding Indigenous participation in the regional economy. There are three reasons for this. First of all, the major regional impacts on Indigenous people in terms of their overall labour force and economic status are likely to depend more on administrative and funding decisions regarding CDEP than anything else. While current policy settings emphasise movement off the scheme into mainstream work, the manner in which this is managed and synchronised will be crucial to the overall regional status of the Indigenous labour force given the scale of current reliance on CDEP.

Second, CDEP inevitably forms part of any comprehensive planning for Indigenous participation in regional economic development. This is because much of the locally-based potential mainstream workforce would, in all likelihood, be currently engaged by a CDEP program and potentially building necessary skills and experience via such employment. Also, many of the regional multipliers in the form of enterprise development are likely to accrue in the first instance to CDEP programs given their predominant role in pursuing such opportunities.

Finally, the nature of CDEP program economic activity is such that it underpins key elements of community service delivery (with a sizeable substitution effect) and to some degree customary community pursuits. In this context, the degree to which such activities continue to be supported by CDEP as it transforms into more of an employment program focused on moving individuals into mainstream work will be crucial. In the meantime, the essential background to considering all of these issues is one of high projected growth in the Indigenous working age population.

REGIONAL LABOUR FORCE STATUS

Rates of labour force status from the 2001 Census are shown for Indigenous and non-Indigenous residents of the study region in Table 18. Three standard indicators of labour force status are established:

- the *employment/population ratio*, representing the percentage of persons aged 15 years and over who indicated in the census that they were in employment (either in CDEP or in mainstream work) during the week prior to enumeration;
- the *unemployment rate*, expressing those who indicated that they were not in employment but had actively looked for work during the four weeks prior to enumeration, as a percentage of those aged 15 years and over;
- the *labour force participation rate*, representing persons in the labour force (employed and unemployed) as a percentage of those of working age.

What this shows is that the rate of CDEP employment is more or less equivalent to that of mainstream (non-CDEP employment) in the Broome SLA, whereas in the Derby-West Kimberley region the rate at which Indigenous adults were employed by CDEP was almost three times higher than their rate of mainstream employment (42% compared to 15%). In both regions, though, Indigenous mainstream employment rates fell way below those recorded for the rest of the population. While census-derived unemployment rates were low for all populations, this is more likely to reflect the impact of CDEP for Indigenous adults. At the

Table 19. Estimated labour force status levels for Indigenous and non-Indigenous usual residents of the Broome and Derby-West Kimberley SLAs, 2006

	Employed		Unemployed	Not in the labour force	Total 15+
	CDEP	Mainstream			
			Broome SLA		
Indigenous	896	785	200	1,476	3,357
Non-Indigenous	68	6,014	294	1,587	7,963
Total	964	6,799	494	3,063	11,320
			Derby-West Kimberley SLA		
Indigenous	1,403	519	131	1,294	3,347
Non-Indigenous	117	2,704	89	638	3,548
Total	1,520	3,223	220	1,932	6,895
			Total West Kimberley		
Indigenous	2,299	1,304	331	2,770	6,704
Non-Indigenous	185	8,718	383	2,225	11,511
Total	2,484	10,022	714	4,995	18,215

Source: Author's own estimates based on 2001 Census rates and 2006 projection.

same time, the proportion of Indigenous adults not in the labour force was substantial at 44 per cent in the Broome SLA and 39 per cent in Derby-West Kimberley.

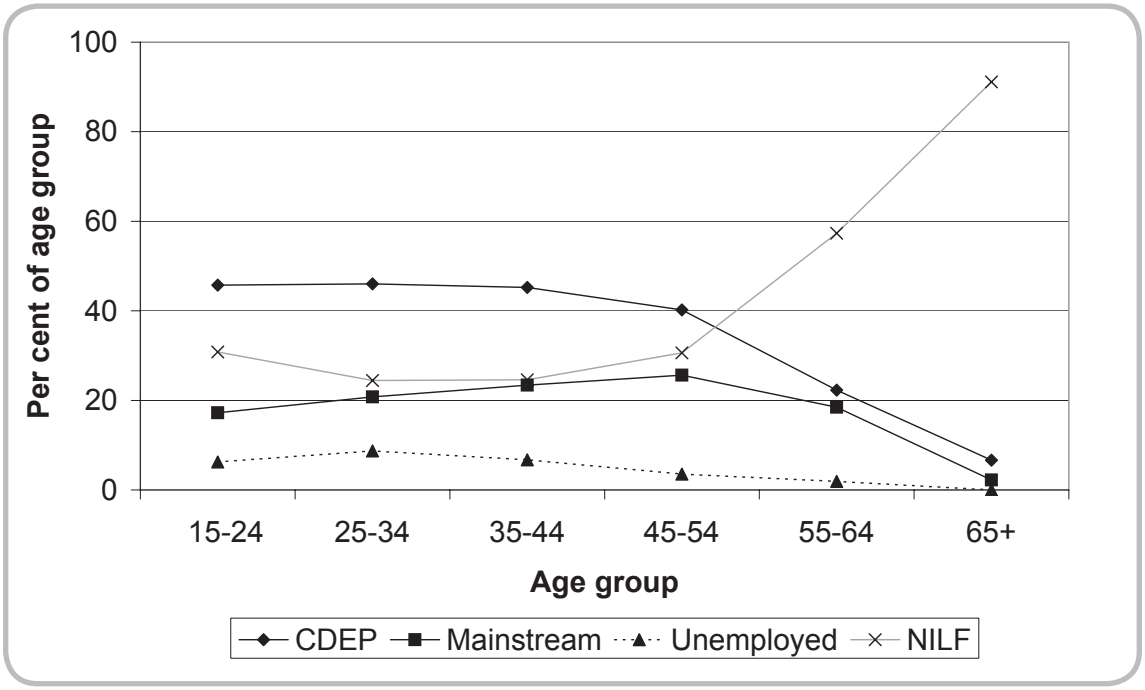
As noted in the discussion on methods above, although these rates are now five years old, we can use them as the basis for establishing current levels of labour force status by applying them to the projections of the working age population for 2006 on the assumption that the rates have not altered over the intervening years. The results of this application are shown in Table 19, though they are to be regarded as only indicative of the current situation—any definitive results would have to await the release of 2006 census rates and 2006 post-censal population estimates.

Overall, this suggests that the current (2006) size of the Indigenous labour force in the Broome SLA (all Indigenous residents employed in CDEP and mainstream work plus those unemployed) amounts to 1,881, while the non-Indigenous labour force totals 6,376. Thus, Indigenous adults account for only 23 per cent of the Broome SLA labour force despite accounting for 30 per cent of the resident adult population. As for estimated numbers in the CDEP scheme (896), this is substantially less than the 1,130 participants registered with the Kullarri Regional CDEP in Broome in October 2006. As noted earlier, this variation may reflect the fact that the census records employment in the 'last' week, while CDEP work is intermittent and predominantly part-time. However, it may also be an indication of residual census undercount not accounted for by the estimation of employment levels as calculated here. Of course, with this many workers in the Kullarri CDEP the mainstream employment rate would be much lower at just 16 per cent and Indigenous workers would comprise only 8 per cent of the mainstream workforce in the Broome Shire. Estimated numbers not in the labour force, however, are similar for Indigenous adults (1,476) and non-Indigenous (1,587).

In Derby-West Kimberley, the Indigenous labour force is somewhat higher at 2,053, while the non-Indigenous labour force totals 2,910. Thus, Indigenous adults here account for 41 per cent of the labour force, although this is due to the much greater number of people employed by CDEP. Once again, the estimate of CDEP employment at 1,403 is notably lower than the 1,663 actually registered with CDEP programs in the Shire in October 2006, with the same potential effect on the mainstream employment rate. Unlike the situation in Broome SLA, the number of Indigenous adults in Derby-West Kimberley who are not in the labour force is double that of non-Indigenous adults.

Interestingly, the census-derived estimates of unemployed numbers shown in Table 19 are almost identical to the number of Indigenous adults registered in receipt of Newstart Allowance as of May 2006 in Broome and Derby-West Kimberley postcodes that match the SLAs in question (356). Despite this match, given the administratively-determined nature of much Indigenous economic activity in the region, the boundaries between officially recorded employment, unemployment, and consequent labour force participation rates, are sufficiently blurred that all of these data should be approached with some caution. They are best seen as rough estimates rather than as robust indicators.

Fig. 16. Labour force status rates of Indigenous males by age group: West Kimberley, 2001

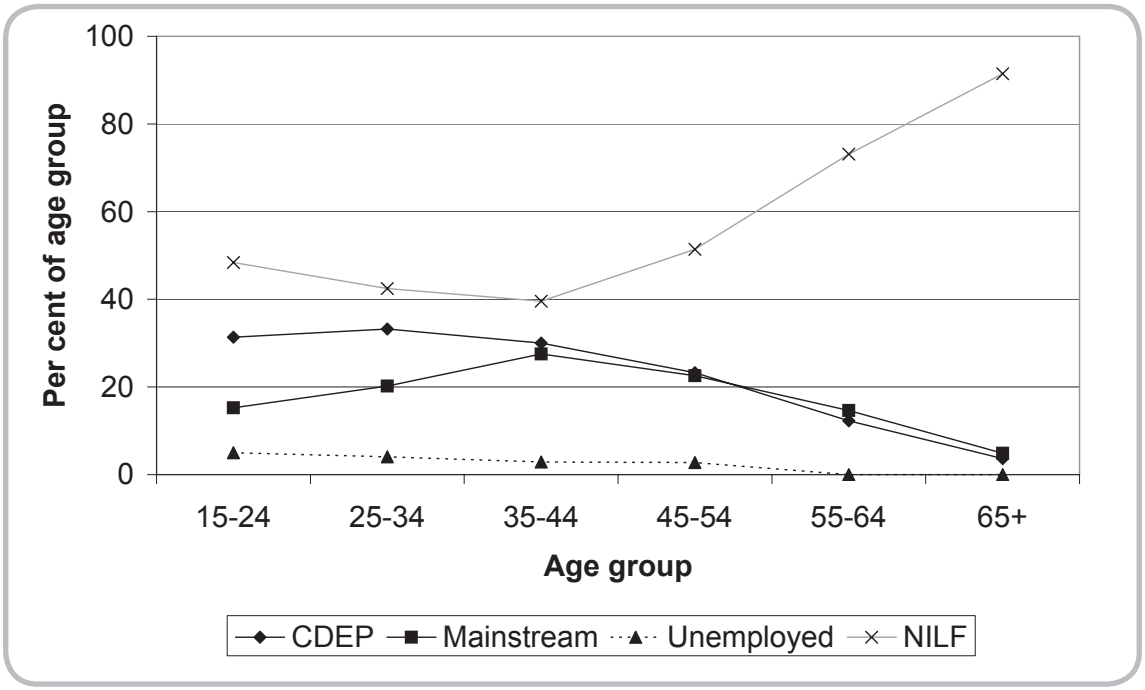


Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

AGE DISTRIBUTION

Of particular interest for social impact planning is the distribution of employment and related labour force status by age. This is shown in Fig. 16 for Indigenous males and in Fig. 17 for Indigenous females resident in the West Kimberley as a whole using 2001 Census data. The most striking feature is the fact that participation in CDEP is higher than participation in mainstream employment at all ages, and especially so among males and for all those at younger ages between 15 and 34 years. As expected, labour force participation is positively correlated with age up to 35–44 years, but recedes rapidly thereafter, indicating an abrupt shortening of the working-life span. It is distinctly likely that this reflects increased morbidity with advancing age, a proposition that can be tested with hospital separations data (though this is not done here). Accordingly, those most active in the labour market are generally under 45 years of age. It is noticeable, however, how the rate of female non-participation in the labour force is consistently around 20 percentage points higher than the rate for males. To the extent that local recruitment for mainstream Indigenous employment will be drawn from those currently aged 15–34 years, these data point to a substantial lack of labour market experience among females, and for anyone at all outside of CDEP scheme participation.

Fig. 17. Labour force status rates of Indigenous females by age group: West Kimberley, 2001



Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

DEPENDENCY RATIOS

Measures of the potential economic implications of a given age structure can be combined with data on labour force status to produce a range of dependency ratios. These are shown in Tables 20 and 21 for the Indigenous populations of the Broome and Derby-West Kimberley SLAs respectively, with comparison drawn from Western Australia as a whole. The *childhood dependency* ratio is the simplest of these measures and expresses the number of children in the population (aged 0–14 years) as a ratio of the working-age population (defined here as aged 15–55, given the significance of adult morbidity). A ratio of 1.0 indicates that the size of the two age groups is the same and that there is one person of working age for every child. A figure greater than 1.0 indicates more than one child to each person of working age, and less than 1.0 indicates less than one child to each person of working age. Obviously, this only provides a measure of the ratio of potential economic providers to dependants, as it takes no account of the economically inactive.

In both SLAs the *childhood dependency* ratio was the same as that reported for Indigenous people generally in Western Australia at 0.7—that is, there are 0.7 Indigenous children to each Indigenous adult of working

Table 20. Dependency ratios for the Indigenous populations of the Broome SLA and Western Australia, 2001

Dependency ratio	Broome	Western Australia
Childhood dependency	0.7	0.7
Childhood burden	1.2	1.6
Childhood burden (excl. CDEP)	2.4	2.3
Dependency ratio	1.8	2.2
Economic burden	2.1	2.9
Economic burden (excl. CDEP)	5.4	4.8

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 21. Dependency ratios for the Indigenous populations of the Derby-West Kimberley SLA and Western Australia, 2001

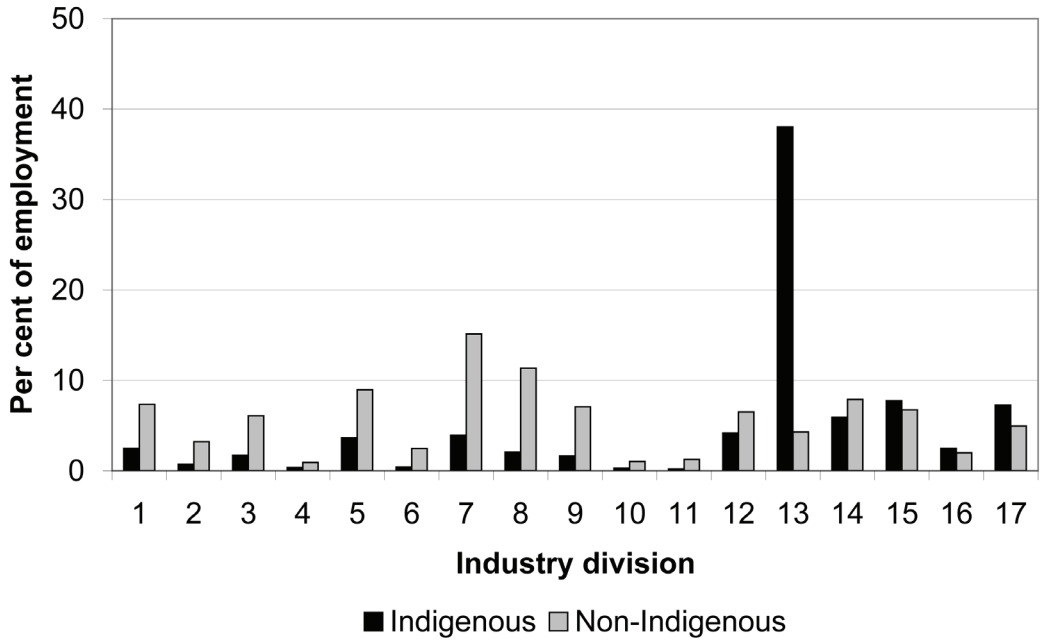
Dependency ratio	Derby-West Kimberley	Western Australia
Childhood dependency	0.7	0.7
Childhood burden	1.0	1.6
Childhood burden (excl. CDEP)	3.7	2.3
Dependency ratio	1.5	2.2
Economic burden	1.7	2.9
Economic burden (excl. CDEP)	9.3	4.8

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

age. While this may appear to be a favourable ratio at one level, it represents far more children per adult compared to the ratio of 0.29 recorded for the non-Indigenous population of the West Kimberley.

More refined measures of dependency incorporate some indication of the ability of working-age adults to support others. The *childhood burden*, for example, is defined as the ratio of the number of children to the number of employed persons. Once again, a figure of 1.0 indicates parity. According to census-based estimates, in the Broome SLA there were 1.2 Indigenous children to each employed adult if all those engaged by the CDEP scheme are considered to be in employment. If, however, this calculation is based on those employed only in non-CDEP work, then the ratio is much higher at 2.4. In the Derby-West Kimberley SLA, this increase in childhood burden is much greater from 1.0 to 3.7, reflecting the greater reliance on the CDEP scheme as a primary income support mechanism for large numbers of child dependants in the Derby area.

Fig. 18. Distribution of Indigenous and non-Indigenous employment by industry division: Broome SLA, 2001



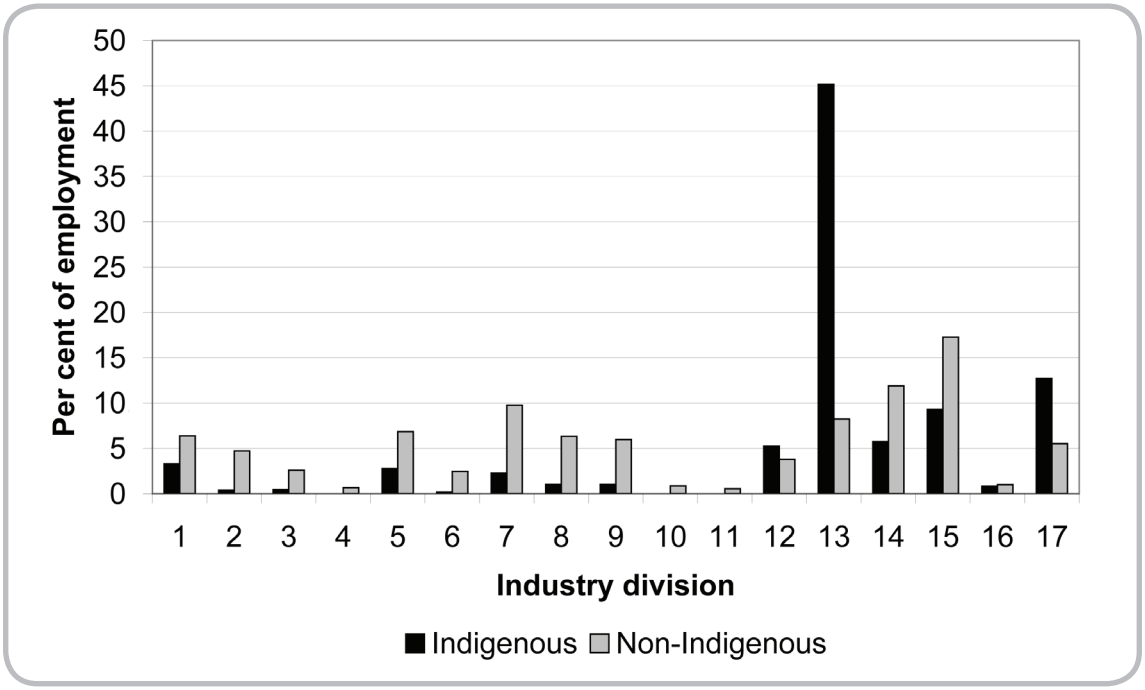
1. Agriculture, Forestry and Fishing; 2. Mining; 3. Manufacturing; 4. Electricity, gas and water; 5. Construction; 6. Wholesale Trade; 7. Retail Trade; 8. Accommodation, cafes and restaurants; 9. Transport and Storage; 10. Communication Services; 11. Finance and Insurance; 12. Property and Business Services; 13. Government Administration and Defence; 14. Education; 15. Health and Community Services; 16. Cultural and Recreational Services; 17. Personal and Other Services.

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Another measure is provided by the *dependency ratio* that represents the ratio of children and economically inactive adults to the labour force (comprised of those employed plus those unemployed). In the West Kimberley this is low compared to the Western Australian average, once again reflecting the relative significance of CDEP scheme employment in bolstering the labour force. If the focus were solely on those in mainstream employment the *dependency ratio* would be much higher at 3.4 in Broome and 5.0 in Derby-West Kimberley.

Finally, the *economic burden* is a ratio of the number of children and economically inactive persons (including those unemployed) to employed persons. Once again this is relatively low in a State context. However, if

Fig. 19. Distribution of Indigenous and non-Indigenous employment by industry division: Derby-West Kimberley SLA, 2001



1. Agriculture, Forestry and Fishing; 2. Mining; 3. Manufacturing; 4. Electricity, gas and water; 5. Construction; 6. Wholesale Trade; 7. Retail Trade; 8. Accommodation, cafes and restaurants; 9. Transport and Storage; 10. Communication Services; 11. Finance and Insurance; 12. Property and Business Services; 13. Government Administration and Defence; 14. Education; 15. Health and Community Services; 16. Cultural and Recreational Services; 17. Personal and Other Services.

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

those in CDEP are excluded from the economically active then the economic burden rises substantially to 5.4 in the Broome SLA and as much as 9.3 dependants per income earner in Derby-West Kimberley.

From a regional planning perspective, then, the youthful Indigenous age profile is a key demographic feature when set against the relatively poor labour force status of adults. In effect, there are between five and nine dependants, on average, for each Indigenous employee in the mainstream labour market. This represents a notably higher economic burden for the regional Indigenous population than recorded for the Indigenous population generally in Western Australia. However, perhaps of more significance, in the local context of access to resources and consumer spending, is the fact that the burden is massively higher than observed among non-Indigenous residents of the region (0.6 dependants per income earner) with whom Indigenous residents can draw direct comparison.

INDUSTRY AND OCCUPATION

In the final analysis, employment is a means to personal income generation, while the amount generated is determined largely by occupational status. In turn, the availability of particular occupations within a region is partly related to the industry mix of economic activities. Thus, the relative distribution of Indigenous and non-Indigenous employment by industry and occupational category is a vital feature of participation in the regional labour market and this is shown in Figs 18 and 19 for Broome and Derby-West Kimberley respectively.

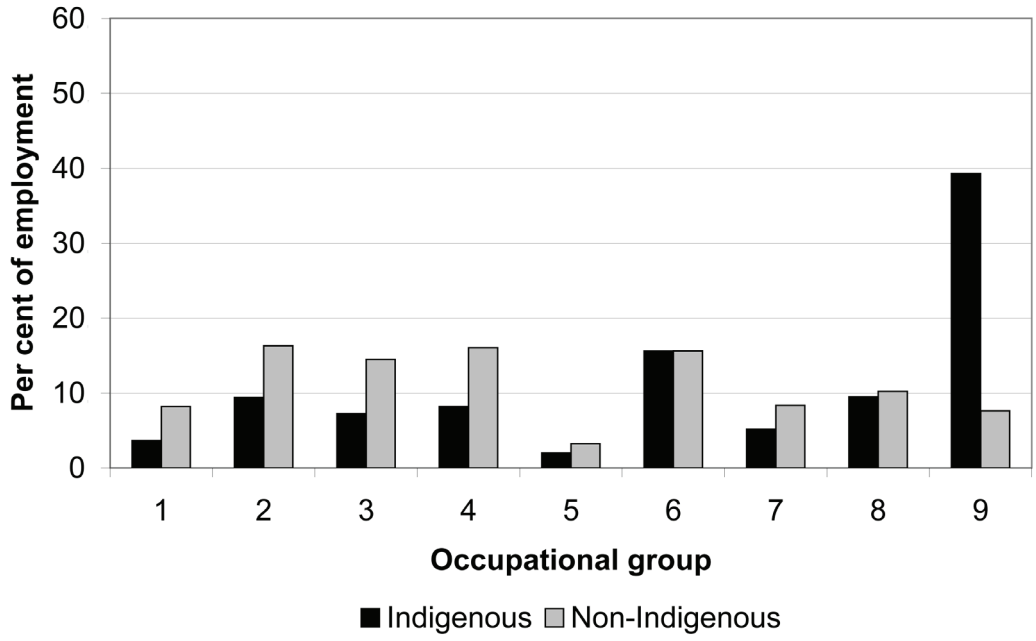
Clearly, the distribution of Indigenous employment by industry division in both Shires is quite different from that of their respective non-Indigenous counterparts. Indigenous employment is heavily concentrated in government administration, which mostly reflects the census classification of CDEP employment. The only

Table 22. Differentials in employment distribution between male and female Indigenous and non-Indigenous workers by industry division: West Kimberley, 2001

Industry division	Difference in per cent employed		
	Males	Females	Total
Agriculture, Forestry and Fishing	-4.7	-3.1	-4.0
Mining	-4.5	-1.4	-3.1
Manufacturing	-5.5	-2.6	-4.2
Electricity, Gas & Water Supply	-0.9	-0.3	-0.7
Construction	-8.4	-1.0	-5.1
Wholesale Trade	-2.7	-1.8	-2.3
Retail Trade	-9.4	-12.6	-10.8
Accommodation, Cafes & Restaurants	-6.6	-11.3	-8.7
Transport & Storage	-7.0	-3.7	-5.5
Communication Services	-0.8	-1.0	-0.9
Finance & Insurance	-0.8	-1.3	-1.0
Property & Business Services	-1.6	0.6	-0.6
Government Administration & Defence	45.9	38.7	42.7
Education	-2.5	-2.4	-2.5
Health & Community Services	2.9	-3.1	0.2
Cultural & Recreational Services	-0.4	0.6	0.1
Personal & Other Services	7.1	5.6	-4.0
Index of dissimilarity	55.8	42.7	46.1

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Fig. 20. Distribution of Indigenous and non-Indigenous employment by occupational group: Broome SLA, 2001



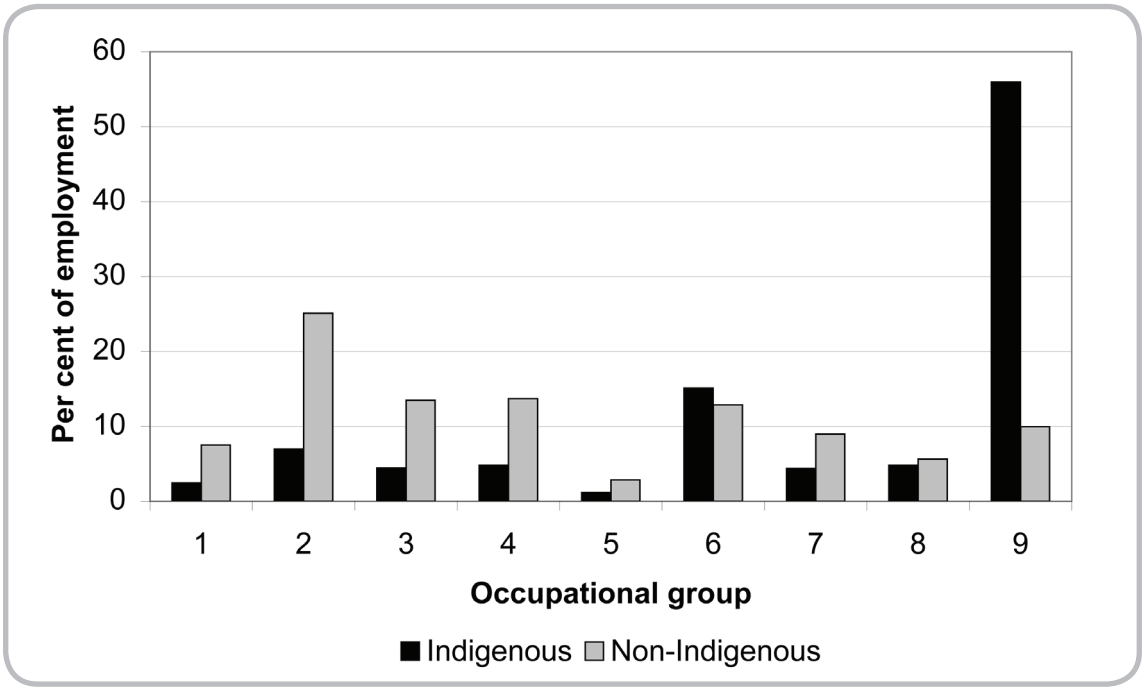
1. Managers and Administrators; 2. Professionals; 3. Associate Professionals; 4. Tradespersons and Related Workers; 5. Advanced Clerical and Service Workers; 6. Intermediate Clerical, Sales and Service Workers; 7. Intermediate Production and Transport Workers; 8. Elementary Clerical, Sales and Service Workers; 9. Labourers and Related Workers

Source: ABS 2001 Census customised usual residence tables

other focus of any significance for Indigenous employment is in health and community services and personal service industries. Overall, this concentration of Indigenous employment in few industry classes compared to the wider spread of non-Indigenous employment results in substantial labour market segregation in the West Kimberley. In effect, as much as half of the Indigenous workforce would have to change their industry of employment in order to have a distribution of employment across industry types equivalent to that of the rest of the West Kimberley workforce. This is indicated by an index of dissimilarity between Indigenous and non-Indigenous employment of 49.3 (the index has a scale of 0 to 100, with 100 representing maximum segregation).

The actual scale of difference between the percentage representation of Indigenous and non-Indigenous male and female workers in each industry division is shown in Table 22 with negative signs indicating those industries where Indigenous workers are under-represented compared to non-Indigenous workers. Clearly, the retail industry and accommodation, cafes and restaurants stand out in this regard for both males and females, followed by agriculture, mining, construction and transport industries for males, and agriculture,

Fig. 21. Distribution of Indigenous and non-Indigenous employment by occupational group: Derby-West Kimberley SLA, 2001



1. Managers and Administrators; 2. Professionals; 3. Associate Professionals; 4. Tradespersons and Related Workers; 5. Advanced Clerical and Service Workers; 6. Intermediate Clerical, Sales and Service Workers; 7. Intermediate Production and Transport Workers; 8. Elementary Clerical, Sales and Service Workers; 9. Labourers and Related Workers

Source: ABS 2001 Census customised usual residence tables

transport and health industries for females. The substantial over-representation of Indigenous workers in government administration, and to a lesser extent in personal and other services, is also revealed. These variations contribute to very high indices of dissimilarity, especially for males.

A similar scale of difference in workforce participation is evident in respect of occupational distributions (Figs 20 and 21). In both SLAs, the overwhelming pattern is one of under-representation of Indigenous workers in managerial, professional and trade occupations, and their substantial over-representation in labouring jobs. While much of the latter arises from the ABS tendency to code CDEP scheme workers as labourers and related workers, the contrasting distributions at focused on either end of the occupational scale provides one measure of the skills differential between Indigenous and non-Indigenous workers, especially in Derby-West Kimberley where this contrast in occupational distribution is most marked.

While the occupational distribution of Indigenous females is more diverse, it is true that Indigenous women experience double segregation in the regional labour market since (as women) they gravitate to the same

Table 23. Differentials in employment distribution between male and female Indigenous and non-Indigenous workers by occupational group: West Kimberley, 2001

Occupational group	Difference in per cent employed		
	Males	Females	Total
Managers and Administrators	-6.9	-2.6	-5.0
Professionals	-9.4	-11.5	-10.3
Associate Professionals	-8.9	-8.2	-8.5
Tradespersons and Related Workers	-14.7	-2.2	-9.1
Advanced Clerical and Service Workers	-0.4	-3.0	-1.6
Intermediate Clerical, Sales and Service Workers	-2.2	3.5	0.4
Intermediate Production and Transport Workers	-5.9	-1.2	-3.8
Elementary Clerical, Sales and Service Workers	-0.6	-4.2	-2.2
Labourers and Related Workers	49.1	29.2	40.2
Index of dissimilarity	49.1	32.7	40.5

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

sex-segregated occupations as their non-Indigenous counterparts, notably in clerical positions. At the same time, Indigenous women remain under-represented in professional and associate professional positions and are more likely to be found in intermediate clerical jobs (Table 23). The greater similarities in female employment are reflected in a lower index of dissimilarity between female workers compared to male (32.7 compared to 49.1). Viewed overall, though, Indigenous workers in the West Kimberley are substantially under-represented in all of the more skilled occupations (especially males in trade occupations), and as a consequence as much as 40 per cent of the Indigenous workforce would need to shift their occupational group if they were to match the skill set of the regional non-Indigenous workforce.

The data in Figs 20 and 21 reveal only the broad outlines of the regional labour market. Each of these classifications can be disaggregated into more detailed descriptions of industry and occupation in a way that highlights the particular jobs in which Indigenous and non–Indigenous workers congregate. For example, the Australian and New Zealand Standard Industrial Classification (ANZSIC) that the ABS uses to categorise industries, can be broken down into 635 individual industry classes, while the Australian Standard Classification of Occupations (ASCO) is reducible to 340 occupational unit groups. In identifying key components of the West Kimberley labour market, these are the categories utilised here.

When examined at this level of detail, the distribution of employment in the West Kimberley, for both Indigenous and non–Indigenous workers, emerges as even more concentrated into relatively few individual industries and occupations. Table 24 shows the top 20 industry classes (based on numbers employed) listed in

Table 24. Rank order of the top 20 industries of employment: Indigenous and non-Indigenous workers in the Broome SLA, 2001

Indigenous		Non-Indigenous	
Local Government Administration	*467*	Accommodation	*320*
Interest Groups, nec	74	*Aquaculture*	*193*
Central Government Administration	*41*	*Primary Education*	*149*
Primary Education	*34*	Cafes and Restaurants	148
Community Health Centres	27	*Supermarket and Grocery Stores*	*144*
Accommodation	*22*	Silver-Lead-Zinc Ore Mining	115
State Government Administration	18	*House Construction*	*97*
Contract Staff Services	16	*Local Government Administration*	*79*
Supermarket and Grocery Stores	*14*	Travel Agency Services	75
Non-Residential Care Services, nec	14	*Secondary Education*	*67*
Beef Cattle Farming	13	*Central Government Administration*	*65*
Hospitals	*13*	Marine Fishing, nec	60
Aquaculture	*12*	*Hospitals*	*56*
House Construction	*12*	Police Services	54
Secondary Education	*12*	Non-Metallic Mineral Product Manufacturing, nec	53
Child Care Services	12	Takeaway Food Retailing	50
Community Services, undefined	11	Real Estate Agents	48
Education, undefined	10	Automotive Repair and Services, nec	44
Film and Video Production	10	Pubs, Taverns and Bars	43
Retailing, nec	8	Taxi and Other Road Passenger Transport	42
Total top 20 employment	840	Total top 20 employment	1,902
Per cent of workforce	71.3	Per cent of workforce	41.6

Notes: 1. Nec = not elsewhere classified.
2. Ranked industries shared by both Indigenous and non-Indigenous workers are in italics.
Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

rank order for both sets of workers in the Broome SLA. These top 20 out of 635 industries account for almost three-quarters (71%) of all Indigenous employment, and approaching half (42%) of all non-Indigenous employment. Industries marked in italics indicate those that are shared between the Indigenous and non-Indigenous lists; all others are unique. Thus, nine out of the top 20 employing industries are common to both Indigenous and non-Indigenous workers and, not surprisingly, many of these (such as local government administration, aquaculture, accommodation, retailing and education) are major regional employers.

Table 25. Rank order of the top 20 industries of employment: Indigenous and non-Indigenous workers in the Derby-West Kimberley SLA, 2001

Indigenous		Non-Indigenous	
Local Government Administration	*661*	*Beef Cattle Farming*	*80*
Interest Groups, nec	116	Hospitals	78
Employment Placement Services	54	*Primary Education*	*75*
Residential Care Services, nec	49	*Local Government Administration*	*59*
Beef Cattle Farming	*44*	Accommodation	50
Waste Disposal Services	43	*Supermarket and Grocery Stores*	*44*
Primary Education	*37*	*Community Health Centres*	*41*
Central Government Administration	*24*	Silver-Lead-Zinc Ore Mining	40
Community Services, undefined	23	*State Government Administration*	*40*
Cleaning Services	19	*Secondary Education*	*33*
Business and Professional Associations	19	Cafes and Restaurants	32
Community Health Centres	*15*	Health Services, undefined	31
Nursing Homes	14	Combined Primary and Secondary Education	29
Secondary Education	*13*	Road Freight Transport	25
Construction Services, nec	11	Corrective Services	24
Supermarket and Grocery Stores	*11*	Police Services	21
State Government Administration	*11*	*Central Government Administration*	*19*
Health Services, undefined	11	Road and Bridge Construction	18
Gardening Services	11	Automotive Repair and Services, nec	18
Landscaping Services	10	Plumbing Services	17
Total top 20 employment	1,196	Total top 20 employment	774
Per cent of workforce	85.8	Per cent of workforce	54.0

Notes: 1. Nec = not elsewhere classified.
2. Ranked industries shared by both Indigenous and non-Indigenous workers are in italics.
Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

However, there are notable differences indicating significant structural breaks in the labour market. For example, Indigenous people are relatively absent from certain key industry employers with many related to tourism such as cafes and restaurants, travel agents, take away food outlets, real estate agents, pubs and taxis, and others focussed on the resources sector such as ore mining and marine fishing. By contrast, they are more likely to be found in municipal and community type service industries. A similar pattern of industry

Table 26. Rank order of the top 20 occupations of employment: Indigenous and non-Indigenous workers in the Broome SLA, 2001

Indigenous		Non-Indigenous	
Cleaners	*148*	*Sales Assistants*	*270*
Labourers and Related Workers, nfd	98	Shop Managers	133
Education Aides	56	*Cleaners*	*107*
Nursery and Garden Labourers	50	Primary School Teachers	93
Sales Assistants	*41*	*Receptionists*	*86*
Farm Hands	35	Miscellaneous Tradespersons and Related Workers	85
Construction and Plumber's Assistants	29	Bookkeepers	72
Elementary Clerks, nfd	26	Office Managers	70
Gardeners	*25*	*Seafarers and Fishing Hands*	*70*
Garbage Collectors	23	Sea Transport Professionals	64
Receptionists	*22*	Travel and Tourism Agents	64
Welfare and Community Workers	20	Carpentry and Joinery Tradespersons	62
Children's Care Workers	18	*Gardeners*	*61*
Project and Program Administrators	17	General Clerks	59
Guards and Security Officers	17	Motor Mechanics	58
Truck Drivers	*16*	Secretaries and Personal Assistants	57
Seafarers and Fishing Hands	*16*	Miners	57
Welfare Associate Professionals	15	Truck Drivers	*55*
Concreters	15	Waiters	54
Visual Arts and Crafts Professionals	14	Chefs	52
Total top 20 employment	701	Total top 20 employment	1,629
Per cent of workforce	62.7	Per cent of workforce	36.0

Notes: 1. Nfd = not further defined.
2. Ranked occupations shared by both Indigenous and non-Indigenous workers are in italics.
Source: 2001 ABS Census of Population and Housing, customised place of enumeration tables.

contrast is evident in Derby-West Kimberley (Table 25). At a stroke, then, the relative absence of Indigenous people from some of the region's top employing industries (notably tourism and resources) indicates that a significant contribution to the relatively poor labour force status of Indigenous people is their lack of parity participation across the full range of regional economic activities.

Not surprisingly, segmentation and concentration in the regional labour market is also evident in regard to occupation. Tables 26 and 27 reveal that the top 20 out of 340 occupations account for almost two-thirds of

Table 27. Rank order of the top 20 occupations of employment: Indigenous and non-Indigenous workers in the Derby-West Kimberley SLA, 2001

Indigenous		Non-Indigenous	
Garbage Collectors	232	Registered Nurses	75
Cleaners	*151*	Primary School Teachers	56
Education Aides	88	Shop Managers	52
Nursery and Garden Labourers	73	*Sales Assistants*	*39*
Labourers and Related Workers, nfd	54	Miners	32
Farm Hands	*53*	*Cleaners*	*32*
Other Labourers and Related Workers, nfd	41	*Farm Hands*	*28*
Handypersons	39	Bookkeepers	25
Special Care Workers	28	Secondary School Teachers	24
Other Miscellaneous Labourers and Related Workers	28	Truck Drivers	*24*
Visual Arts and Crafts Professionals	27	Education Managers	23
Sales Assistants	*27*	Livestock Farmers	23
Elementary Clerks, nfd	25	Cooks	23
Other Mining, Construction and Related Labourers	25	Personal Care and Nursing Assistants	23
Gardeners	*23*	*General Clerks*	*22*
Truck Drivers	*23*	Air Transport Professionals	20
Construction and Plumber's Assistants	22	Project and Program Administrators	20
Welfare and Community Workers	19	Police Officers	19
General Clerks	*18*	Electricians	18
Kitchenhands	18	*Gardeners*	*18*
Total top 20 employment	1,014	Total top 20 employment	596
Per cent of workforce	73.2	Per cent of workforce	41.9

Notes: 1. Nfd = not further defined.
2. Ranked occupations shared by both Indigenous and non-Indigenous workers are in italics.
Source: ABS 2001 Census of Population and Housing, customised place of enumeration tables.

all indigenous workers in the Broome SLA (63%) and almost three quarters (73%) in Derby-West Kimberley. This compares to 36 per cent and 42 per cent respectively for non-Indigenous workers. In both regions, only six out of the top 20 occupational categories are shared indicating greater occupational than industry segregation. While certain major occupations in the region (sales assistants, cleaners and truck drivers) are common to both populations, non-Indigenous workers are more likely to be managers, registered nurses and school teachers, compared to Indigenous workers who are care workers, education aides, and labourers.

Table 28. Estimates of Indigenous and non-Indigenous employment in tourism in the West Kimberley, 2006

	Broome SLA		Derby-West Kimberley SLA	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Tourism employment as a percentage of total employment[1]	9.8	34.0	4.7	22.0
Estimated total employment in 2006[2]	1,178	4,575	1,394	1,433
Estimated tourism employment in 2006	165	2,068	90	621
Indigenous percentage of tourism employment		7.4		12.7

Notes: 1. Based on 2001 Census rates using ANZSIC four-digit data.
2. Based on Table 19.
Source: ABS 2001 Census of Population and Housing, customised tables and author's own 2006 employment projections.

TOURISM

Despite the fact that tourism comprises a major sector of the West Kimberley economy, no such industry or product is identified in international statistical standards. In the ANZSIC, for example, industries are defined on the basis of the primary goods and services that they produce, while the tourism industry is defined according to the status of the consumer (ABS 2006). In order to identify tourism as part of national economic accounting, the ABS has developed a 'tourism' satellite account (TSA) and part of this provides a concordance with those ANZSIC industries that provide tourism-related activities and employment. For the purposes of developing tourism employment estimates the ABS includes the following broad categories and their sub-sets from the ANZSIC: travel agency and tour operator services, road transport and motor vehicle hiring, rail transport, air and water transport, accommodation, cafes and restaurants, retail trade, clubs, pubs, taverns and bars, casinos and other gambling services, libraries, museums and arts, and other entertainment services (ABS 2006). Using the 2001 Census, we can apply this concordance to four-digit ANZSIC data for employed Indigenous and non-Indigenous persons who are usual residents of each West Kimberley shire to calculate the proportion of total employment that is due to tourism in 2006. The results are shown in Table 28.

Overall, this methodology identifies a 2006 estimate of almost 3,000 jobs (2,944) in tourism-related industries across the West Kimberley. This confirms the significance of tourism as a regional employment generator as this figure accounts for 24 per cent of all employment in the West Kimberley. It is significant, therefore, that Indigenous workers comprise barely 9 per cent of this employment even though Indigenous people account for well over one-third (38%) of the adult population. The focus of the tourism sector is clearly on the Broome Shire with 76 per cent of all tourism-related jobs as well as 65 per cent of all Indigenous tourism workers.

MINING

The key regional employment multiplier over the study projection period is anticipated from likely substantial growth in the mineral resources sector. At present, direct mining employment accounts for a relatively small share of the regional job total (around 650 out of 12,505), certainly when compared with other adjacent regions such as the East Kimberley and the Pilbara (Taylor 2004; Taylor & Scambary 2005). Of course, mining employment is highly variable and subject to boom and bust cycles depending on commodity prices and demand for minerals. It also has direct and indirect components associated with extraction phases of mining, as well as temporary components associated with construction phases. Either, or both, of these labour components may be non-local in the sense of Fly-In/Fly Out (FIFO). In situations where FIFO predominates, or where large temporary workforces can move into a region during ramp-up phases of resource development, the de facto population can become very substantial in relation to the resident population.

Given the nature of the West Kimberley regional economy and its part–dependence on a peripatetic workforce, it is therefore necessary to be clear about which workforce population is being referred to in any analysis. This is because of the distinction between individuals who consider the West Kimberley to be their usual place of residence, as opposed to those who might simply be counted in the West Kimberley at any time but whose usual place of residence is actually elsewhere. This latter group can include many FIFO workers as well as others who acquire short-term contract work, or who service the region from an outside base. While such individuals experience high turnover, as a group they comprise a vital and constant structural component of the regional labour market (Storey 2001). As such, any discussion of workforce levels and composition must, where appropriate (and where data are available), include such elements.

While this much seems unequivocal, accurate data on this mobile workforce is difficult to compile as it would ideally require the bringing together of disparate company records. As a fall-back, one approach has been to use census data to estimate the size of the temporary workforce by comparing labour force statistics from usual resident and place of enumeration counts (Taylor & Scambary 2005). However, in a region such as the West Kimberley where a large proportion of the non-usual resident population would be tourists and not workers, this method is compromised.

In October 2006, the main mining operations in the region were based at Aztec Resources revamped Koolan mine on Cockatoo Island, and at Kimberley Diamond's Ellendale operations in the Canning Basin. The former has a workforce of 220 and the latter 330. These numbers are likely to be added to in the near future by the long awaited recommencement of operations at the Lennard Shelf mines near Fitzroy Crossing. Also, nearby, European Gas Limited holds hydrocarbon production licences in the Canning Basin, although these assets are presently being divested. It should also be pointed out that some (Indigenous) workers from the Fitzroy Crossing area bus to the Argyle Diamond Mine in the East Kimberley on a roster basis. However, the major impacts anticipated in the region are focused on the offshore Browse Basin LNG developments involving Woodside Energy and Inpex Browse Ltd regardless of whether this involves onshore or offshore processing plant, although obviously the former would have the greatest regional impact. Investment decisions regarding these projects are expected between 2008 and 2010, with start-up by 2011 involving construction workforces

in the low thousands but operational workforces only in the low hundreds (Government of Western Australia 2005b, 2006). Further impacts of mining on the West Kimberley economy and labour market can also be expected from the development of bauxite deposits around the Mitchell Plateau and Cape Bougainville if global demand for aluminium and energy from the Browse gas project combine to improve viability.

GOVERNMENT AND COMMUNITY SECTOR

Although private sector industries are the largest employer of labour in the West Kimberley (59% of the workforce), there is a marked contrast in this regard between Broome and Derby-West Kimberley with a much higher overall rate of private sector employment in the former (73%) compared to the latter (43%). There is also a much higher rate of non-Indigenous private sector engagement across the whole region (80%) compared to Indigenous (24%).

As noted earlier, Indigenous employment was mostly in the private sector up to the 1970s, but with structural change in the pastoral industry and limited alternate opportunity established in proximity to the places where many Indigenous people continue to reside, the trend for the Indigenous workforce has subsequently been towards greater reliance on the community sector for employment, notably via CDEP. As Table 29 indicates, only one-third (32%) of Indigenous employees in the Broome SLA are now engaged in the private sector, while in the Derby-West Kimberley region this is lower still at 16 per cent. By contrast, CDEP employment dominates in both SLAs, especially in Derby-West Kimberley. Accordingly, Indigenous employment in the Commonwealth and State government sectors is relatively low, notably in Derby-West Kimberley where Indigenous employment in State government agencies is less than half the non-Indigenous rate. These contrasts in the composition of employment by industry sector are reflected in the distribution of part-time/full-time work. Almost half of all Indigenous employment is part-time only (compared to just 27% overall), and a major reason for this is the reliance for much Indigenous employment on CDEP.

Aside from CDEP, this portrayal of Indigenous employment by industry sector masks a very important component of the Indigenous labour market (to date) that has been labelled elsewhere as the Indigenous community organisation sector (Rowse 2002). This sector is significant, not only for its growth over the past three decades, but also for the fact that employment levels in Indigenous community organisations have invariably been counter to economic cycles as they depend more on government funding regimes and the flow of localised private sector monies, not least based around such initiatives as mining agreements. This dependence creates contrasting scenarios for future Indigenous employment—on the one hand, employment in the Indigenous community organisation sector via government funding is likely to decline in the future as CDEP employment, in particular, is eroded—on the other hand, the potential for such employment via agreements with the mining sector, in particular, would seem to be enhanced alongside company pursuit of a social licence to operate.

Unfortunately, data regarding this important labour market sector are either scarce or dated. For example, the most direct data are more than 10 years old. In the 1994 National Indigenous and Torres Strait Islander Survey (NATSIS), an estimated 25 per cent of Indigenous people who were employed in the Broome (Kullarri)

Table 29. Rates of Indigenous and non-Indigenous employment by industry sector: Broome and Derby-West Kimberley SLAs, 2001

	Broome			Derby-West Kimberley		
	Indigenous	Non-Indigenous	Total	Indigenous	Non-Indigenous	Total
Commonwealth government	5.0	2.9	3.5	2.4	4.1	3.3
State government	7.7	10.3	9.6	6.1	18.7	12.7
Local government	1.8	1.9	1.9	2.4	2.9	2.7
Private sector	32.1	83.8	69.0	15.8	70.0	44.1
CDEP	53.4	1.1	16.1	73.3	4.2	37.3
All workers	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes industry sector not stated.
Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 30. Estimated levels of Indigenous and non-Indigenous employment by industry sector: Broome and Derby-West Kimberley SLAs, 2006

	Broome			Derby-West Kimberley		
	Indigenous	Non-Indigenous	Total	Indigenous	Non-Indigenous	Total
Commonwealth government	78	179	257	46	116	162
State government	121	635	756	116	536	652
Local government	29	118	147	45	84	129
Private sector	502	5,162	5,664	299	2,002	2,301
CDEP	833	70	903	1,389	120	1,509
All workers	1,563	6,164	7,727	1,895	2,858	4,753

Note: Excludes industry sector not stated.
Source: Table 29 rates and 2006 projection.

ATSIC Region reported that they were employed by an Indigenous community organisation (ABS 1996a). In the Derby (Malarabah) ATSIC Region this figure was as high as 56 per cent (ABS 1996b). While no similar such data have been available since the 1994 NATSIS, information from the Western Australia Department of Indigenous Affairs indicates that a total of 129 Indigenous corporations, communities and organisations exist in the equivalent of the Broome (Kullarri) ATSIC Region and 112 in the Derby (Malarabah) Region in 2006, making an overall total of 241 in the West Kimberley. If these organisations employed just two Indigenous persons each (a very modest assumption) then as Table 30 indicates, total Indigenous employment in this sector would exceed that estimated in Commonwealth, State and local government agencies combined

Table 31. CDEP Schemes and participant numbers in Broome and Derby-West Kimberley SLAs, 2000[1]

Broome SLA		Derby-West Kimberley SLA	
Bardi Aborigines Ass.	107	Bayulu Community Inc.	147
Beagle Bay Community Inc.	191	Djugerari Aboriginal Corp.	35
Bidyadanga Aboriginal Community	229	Eight Mile Aboriginal Corp.	19
Burrguk Aboriginal Corp.	156	Emama Nguda Aboriginal Corp.	172
Djarindjin Aboriginal Corp.	66	Fitzroy Crossing Aboriginal Sporting Ass. Inc.	68
Lombadina Aboriginal Corp.	34	Jarlmadangah Burru Aboriginal Corp.	41
Mamabulanjin Aboriginal Corp.	266	Junjuwa Community Inc.	192
Nirrumbuk Aboriginal Corp.	320	Kadjina Community Inc.	36
Broome SLA Total	**1,369**	Koorrabay Aboriginal Corp.	37
		Looma Community Inc.	102
		Mowanjum Aboriginal Corp.	85
		Muludja Aboriginal Corp.	62
		Ngalingkadji Aboriginal Corp.	16
		Ngallagunda Aboriginal Corp.	56
		Ngurtuwarta Aboriginal Corp.	21
		Pandanus Park Aboriginal Corp.	51
		Wangkatjungka Community Inc.	108
		Winun Ngari Aboriginal Corp.	175
		Yakanara Aboriginal Corp.	86
		Yarrangi Ngarri Aboriginal Inc.	86
		Yungngora Association Inc.	94
		Derby-West Kimberley SLA Total	**1,689**

Note: 1. As at 30 June 2000.
Source: ATSIC, CDEP Administration, Adelaide.

in 2006. On this evidence, it is both ironic and remiss that specific data do not exist regarding what likely constitutes the main employment sector for Indigenous people in the region.

COMMUNITY DEVELOPMENT EMPLOYMENT PROJECTS SCHEME

In terms of numbers employed, by far the largest element of this Indigenous community organization sector are activities administered by various CDEP programs. Apart from providing the bulk of Indigenous employment in the region, the scale of CDEP is also felt in the wider economy by boosting the relative size of the service industries sector to around 20 per cent of regional output—substantially greater than in other

Table 32. CDEP Programs, participant numbers and funding in the West Kimberley, 2006

CDEP Program	Participants (Oct 2006)	2005-06 funding ($)[1]
Kullarri	1,130	25,049,313
Emama Nguda	177	2,858,805
Winun Ngari	191	3,476,925
Mowanjum	117	1,970,258
Jarlmadangah Burru	52	811,283
Looma	107	1,468,035
Yungnora	166	2,615,170
Marra Worra Worra	769	11,320,026
Kurungal	84	1,251,693
Total West Kimberley	**2,793**	**50,821,508**

Note: 1. Includes wages and oncosts.

Source: CDEP program providers and Parliament of Australia *Senate Order on Departmental and Agency Contracts relating to the period 1 January 2005 to 31 December 2005.*

regions such as the Pilbara (Johnson 2001: 7). Trends in regional economic input due to CDEP are therefore of considerable interest beyond the primary function of the program in supporting various platforms for Indigenous participation in the labour market.

In this regard, it should be noted that there has been substantial rationalization of the administration of what used to be called the CDEP 'scheme' in the West Kimberley over the past few years. Table 31 shows the situation in 2000. Overall, there were 3,058 participants in this year, more or less evenly divided between eight community-based CDEP schemes in the Broome SLA and as many as 17 individual schemes in the Derby-West Kimberley SLA. The average number of participants per scheme was 122. In 2006, the situation is quite different, especially in the Shire of Broome where the former eight CDEP schemes have been amalgamated to form one large regional CDEP program (Kullarri). In the Derby-West Kimberley Shire, the 17 individual schemes have been reduced to just eight, with Marra Worra Worra CDEP based in Fitzroy Crossing absorbing most of these and now responsible for administering projects in 37 different locations along the Fitzroy Valley and adjacent lands. The other programs in Derby-West Kimberley include those administered by Emama Nguda Aboriginal Corporation focused on the town of Derby, by Winun Ngari Aboriginal Corporation which services Derby plus outstation communities along the Gibb River road, Jarlmadangah Burru Aboriginal Corporation based at Jarlmadangah on Mt Anderson station, Looma Community Inc., Mowanjum Aboriginal Corporation, Kurungal Council Inc. located at Kupartiya (but also servicing Wangkatjungka), and Yungnora Association Inc. located on Noonkanbah station and also servicing Bidijul and Mingalkala. An indication of

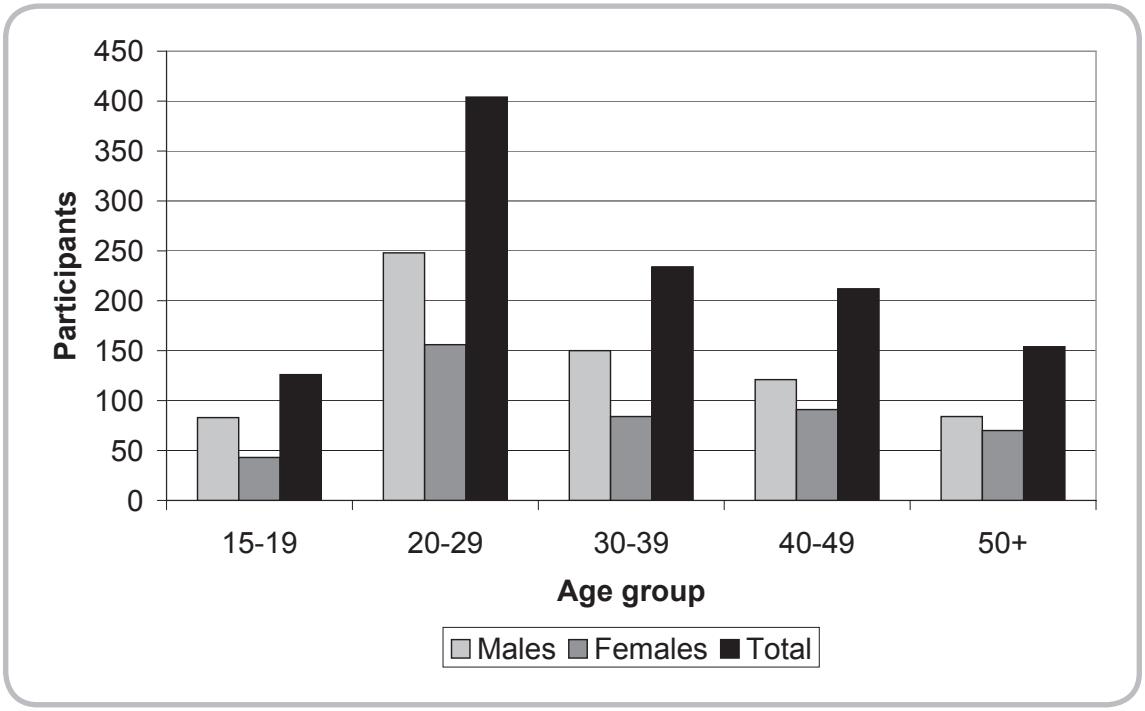
the relative size of current CDEP programs is provided in Table 32 which shows the number of participants in each (as of October 2006) as well as the amount of funding allocated by the Commonwealth Department of Employment and Workplace Relations (DEWR) in financial year 2005–06 for wages and oncosts (mostly for equipment and materials). Overall, as of October 2006, there were 2,793 CDEP participants in the West Kimberley. While it is true that the majority of these participants and most of the CDEP funding in the West Kimberley region was administered by the two large regional programs (Kullarri and Marra Worra Worra), each individual CDEP program retains considerable local significance in terms of supporting Indigenous labour market activity. Overall, across the West Kimberley, total funding for CDEP programs in 2005–06 (including on-costs) amounted to $51 million with this amount distributed equally between the Broome and Derby-West Kimberley shires. Of this amount, approximately $38 million (76%) was allocated as income to CDEP participants.

The first observation that arises from these contemporary data on CDEP participation is the fact that aggregate participant numbers in the West Kimberley appear to have fallen in recent years from 3,058 as indicated in Table 31 to the 2,793 shown in Table 32. Furthermore, this reduction in participant numbers following the amalgamation of small community-based schemes into larger regional programs has been greater in the Broome SLA (down from 1,369 to 1,130) compared to Derby-West Kimberley (down from 1,689 to 1,663).

Of course, because of growth in the population of working age this decline in participant numbers means that the rate of CDEP employment in the West Kimberley has dropped even further from an estimated 51 per cent in 2001 (using 2000 participant data) to 42 per cent in 2006. However, this impact differs somewhat between the two Shires with the CDEP participant rate falling substantially in the Broome SLA from 46 per cent in 2001 to just 34 per cent in 2006, whereas in the Derby-West Kimberley SLA it fell from 56 per cent to 50 per cent. At the same time, it should be stressed that the participant numbers shown in Table 32 are very much point-in-time data. Given the new eligibility criteria and administrative arrangements for CDEP introduced by DEWR during 2006, there is every reason to expect that the rate of CDEP program participation will continue to fall in both regions even if the program is sustained or even expanded slightly in remote communities. This is especially so in the Broome SLA given plans to terminate access to CDEP in the town of Broome.

The underlying ethos of CDEP is now of a program designed to assist movement 'off the books' and into mainstream employment. As such, there is a sense prevailing within government that the success of the program should be determined by this achievement. While an annual 10 per cent movement off the program is generally accepted as a key performance indicator, over the 12 months prior to October 2006 CDEP programs in the West Kimberley managed to move 205 participants off the program (7% of the October 2006 participant numbers). The majority of these outcomes were urban-based in Broome and Derby and, not surprisingly, they involved the most job-ready (and generally younger) individuals. One question that arises—given the demographic, social and economic composition of program participants set against local labour

Fig. 22. Number of Indigenous CDEP participants by age and sex: Broome SLA, 2006

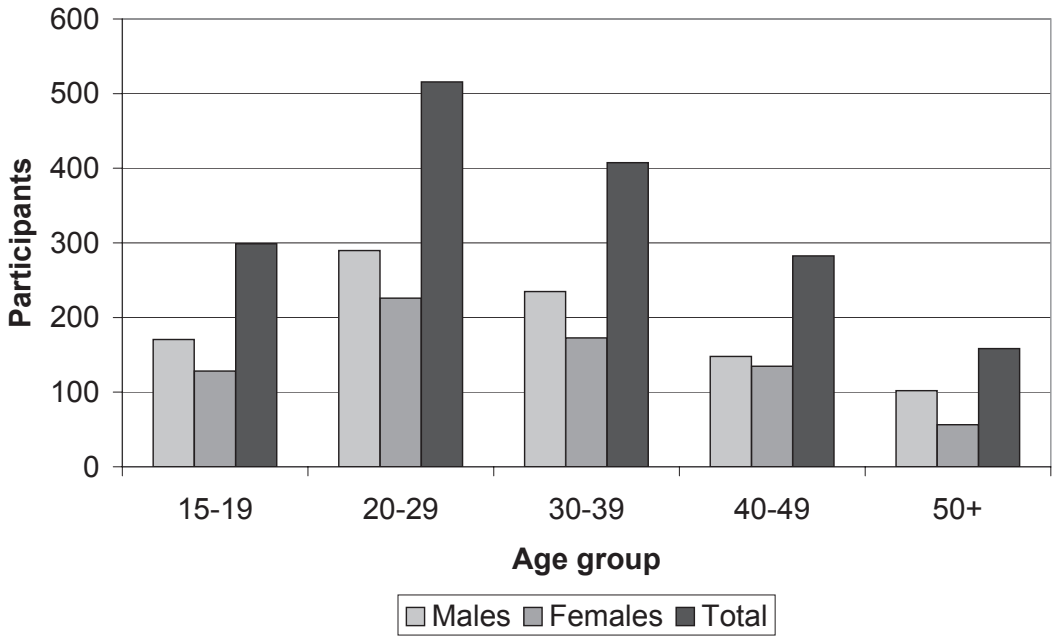


Source: CDEP program providers.

demand—is the extent to which this level of movement off the program can be sustained, and whether or not a saturation point will quickly be reached.

Aside from this underlying dynamic, a number of other factors also now combine to apply possible downward pressure on regional participant levels. Aside from the decision to cease funding the CDEP program in Broome from June 2007 and replace this with Structured Training and Employment (STEP) brokerage services (Australian Government 2006), the deadline of 30 September 2006 set by DEWR for Job Network registration by participants in urban and regional centres (Broome and Derby) may have resulted in loss of eligibility for the program of those who failed to comply. There will also be increased natural attrition from the program due to the imposition of a 12 month limit on CDEP eligibility for new participants from July 2006 who are residents of Derby, as well as for any existing participants who return to CDEP work after a 12 week break (a likely significant factor in the context of high population mobility). In addition, there is a possibility that smaller, more community-focused providers may lose out to larger more corporate providers in the face of contestable contracting with possible consequences for CDEP participants who for various reasons (age, disability) may be viewed as 'out of scope' by Job Network providers. Finally, a narrowing of the range of

Fig. 23. Number of Indigenous CDEP participants by age and sex: Derby-West Kimberley SLA, 2006



Source: CDEP program providers.

CDEP activities approved under individual participation plans may have a similar effect. Putting all this together, it could be said that the long-term performance indicator of CDEP will be its demise, although much depends here on how government views the continued role of the program in remote communities with limited mainstream labour markets. Given its significance as a regional economic multiplier in the West Kimberley, one certainty is that any diminution of CDEP will have implications beyond the simple fact of reduced participation.

DEMOGRAPHIC CHARACTERISTICS OF CDEP PARTICIPANTS

Given the obvious overall significance of CDEP in terms of Indigenous participation to date in the West Kimberley labour market, there is interest in establishing the cohort and gender effects of this with a view to contemplating the impacts of potential attrition as outlined above. For example, if CDEP participation is heavily skewed by age and sex, this may have implications in terms of its future use as an avenue into labour market participation.

The numbers of participants by broad age group and sex are shown in Figs 22 and 23 for Broome and Derby-West Kimberley respectively. The first point to note is that male participants outnumber female in

both regions (154 males to every 100 females in Broome and 132 males to every 100 females in Derby-West Kimberley). While this is the case at all ages, it is especially so at younger ages (under 40). The second point is that participant numbers peak between the ages of 20–29, with one-third of all participants in this age range. The third observation is that youth numbers (under 20) are relatively low in the Broome SLA, raising questions about the continuity of future supply into CDEP programs in that region. Finally, there are relatively large numbers of older workers (29% over 40 years) still on the program and this raises questions about their medium-term eligibility for participation given the new impetus for training as transition to mainstream employment.

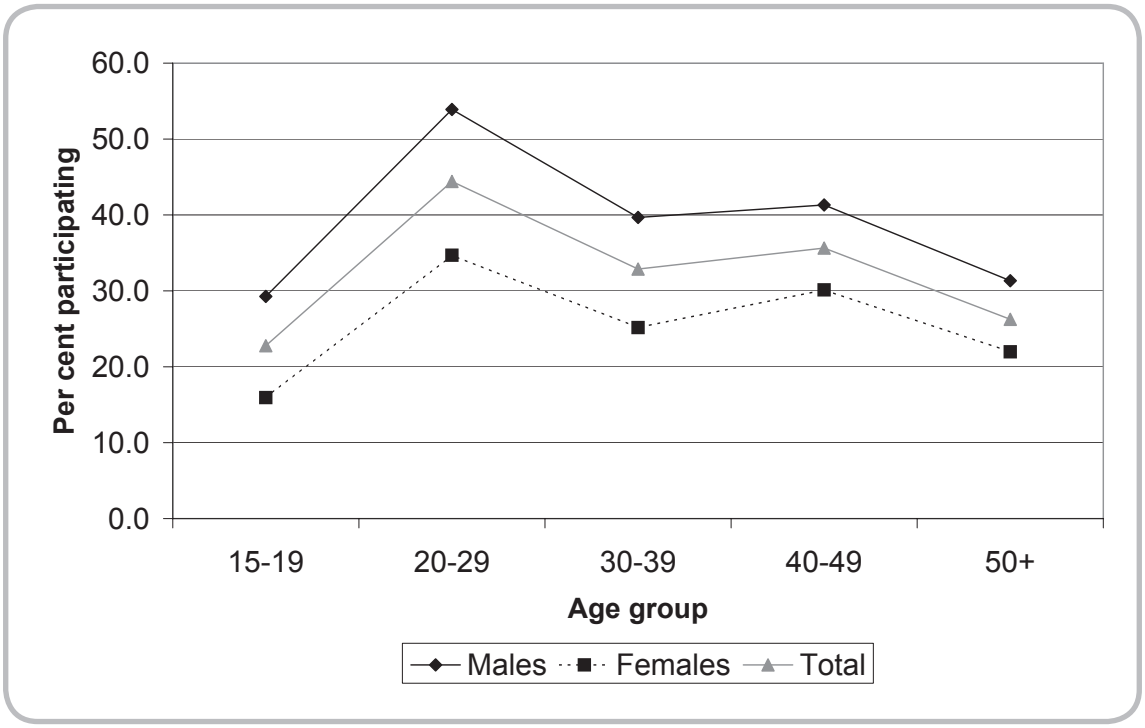
In demographic terms, it is participation rates rather than levels that are more relevant, especially when comparing the importance of the program between the two regions. Figs 24 and 25 show the Indigenous age and sex CDEP program participation rates for each SLA. Obviously, male participation rates are higher than female rates at all ages, and so the age pattern of participation holds more interest. In the Broome Shire this is relatively low among youth aged 15–19 years involving 30 per cent of males in this age group and less than 20 per cent of females. For those aged 20–29 years, however, CDEP looms large, involving more than half of all males and one-third of all females. Thereafter, participation falls to around 40 per cent for males and 30 per cent for females in the age range 30–49 years, and while it falls again amongst the oldest, the rates for those over 50 years are still higher than youth rates.

The situation in Derby-West Kimberley is somewhat different. CDEP program participation is clearly more pervasive, with higher rates for both males and females commencing at an early age and persisting through the adult years to the late 40s. In effect more than half of all Indigenous male adults aged 15–49 years in the Derby-West Kimberley region, and more than 40 per cent of all equivalent females, are participants in a CDEP program. Given the low labour force participation rate observed overall across these age groups as shown in Figs 16 and 17, this represents a substantial depth of reliance on the CDEP program and one that leaves the region vulnerable to the effects of any changes on a population-wide basis.

CDEP ACTIVITIES

One drawback of census-derived industry and occupational data is their tendency to apply blanket classification to CDEP scheme employment. As shown above, this results in a high concentration of Indigenous employment in government administration (especially local government) and as labourers. It is also the case that because of the employment substitution effect of CDEP, much work that is classified as CDEP actually covers a wider range of industry and employment categories than is apparent from census coding, a fact well illustrated by previous studies of CDEP (Misko 2004). An example here would be CDEP work in an aquaculture project—if this were in the mainstream labour market it would be classified under agriculture, fishing and forestry as an industry, and the workers may well be classified as farm hands or skilled agricultural workers depending on the nature of the job. Instead, the tendency is for them to be classified as labourers in local government. The obfuscation created by this blanket coding of CDEP work is well illustrated by the wide range of activities currently undertaken by participants in West Kimberley CDEP programs:

Fig. 24. Indigenous age and sex specific CDEP program participation rates: Broome SLA, 2006

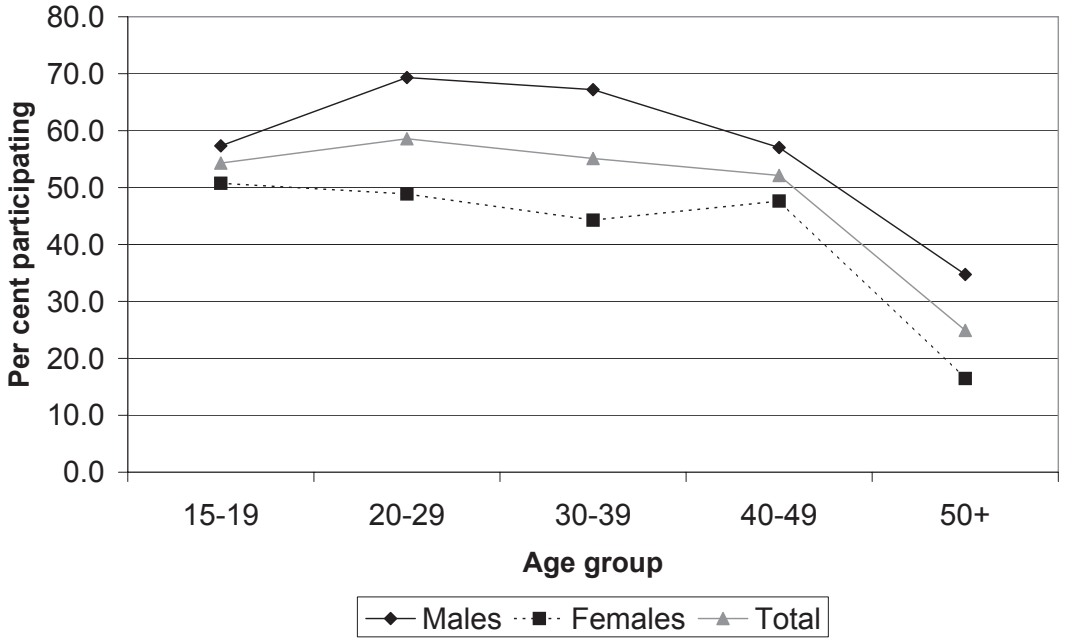


Source: CDEP program providers.

building and non-building construction, plumbing and electrical maintenance, painting and decorating, fencing, road maintenance, plant maintenance and operation, tyre and battery workshop, vehicle repair, office administration, cleaning, rubbish collection, parks and gardens maintenance, aquaculture, market gardening, livestock management, pastoral work, horticulture, land and sea natural resource management, cultural activities, tour guides, drivers, media, sewing, visual and musical arts, ceramics, screen printing, aged care, crèche, youth and men's support activities, clinic assistants, teachers assistants, sport and recreation activities, office assistants, and store assistants.

Clearly, census coding of CDEP masks a good deal of diversity in the composition of Indigenous participation in the regional economy. In particular, it is evident that CDEP underpins many of the vital tasks necessary to enable remote communities to function—in particular, jobs associated with the provision of municipal services, education, health, social services and administration. This is a crucial observation given the new role of CDEP programs as providers of employment services to individual workers with the ultimate aim of moving them off the scheme and into non-CDEP funded work in the mainstream labour market. This

Fig. 25. Indigenous age and sex specific CDEP program participation rates: Derby–West Kimberley SLA, 2006



Source: CDEP program providers.

is because part of the strategy to achieve this is to more narrowly focus eligibility for CDEP work to those activities that have a training component with a potential route into mainstream work. At the same time, CDEP–funded placements are increasingly distinguished from those that are rightly the responsibility of State and local governments such as jobs presently with host employers as health workers, in schools, in office administration, and in the delivery of municipal services. Of course, if State and local governments fail to assume responsibilities for supporting such jobs then the very viability of remote communities could be undermined as people seek services elsewhere.

With these issues in mind, and given the fact that the CDEP program is by far the largest employer of Indigenous labour in the West Kimberley, there is a need to better quantify the employment activity that has historically been supported by the program and to establish those elements of this that may now be compromised by any rationalisation of designated CDEP work. There is also a need to better identify components of the mainstream regional labour market that CDEP might better articulate with, either through direct contracting, sub-contracting and/or joint venturing (for example with mining companies, in the event that resource development projects are initiated in the region).

Table 33. Projected growth in the Indigenous adult population of the West Kimberley by select age groups: 2006 and 2021

Age group	Projection 2006	Projection 2021	Net change	Per cent change
15-24	2,063	2,711	648	31.4
25-34	1,574	2,140	566	36.0
35-44	1,356	1,646	290	21.4
45-54	873	1,237	364	41.7
55+	838	1,422	584	69.7
Total 15+	6,704	9,156	2,452	36.6

Source: Tables 14 and 15.

In this new policy environment it is possible that activities associated with cultural and language maintenance, arts and crafts and natural resource management may come under increasing funding scrutiny, with potentially significant impacts on local economic participation. At the same time, innovative approaches to commercialising many of these activities are being brokered (Altman 2001, 2005; Armstrong, Morrison & Yu 2005). In the West Kimberley, the trochus hatchery at One Arm Point, the Pandanus Park cherabin project, the Manbana multi-species aquaculture hatchery and discovery centre in Broome, and the Emama Nguda mud crab fishing enterprise in Derby provide examples of this, all with significant CDEP support. Certainly, there are regional aspirations expressed that the commercialisation of natural resources is one means to sustain them and that land and sea management, coastal surveillance, cultural heritage and natural heritage protection activities should be considered as legitimate mainstream work with related spin-off in terms of opportunities for cultural tourism (Hill et al. 2005; Toussaint et al. 2001). All of this, of course, requires that people are supported to remain on country and that environments are protected.

Currently, a number of projects exist around the region in line with these sorts of aspirations. These include the Dugong and Marine Turtle project on the Dampier Peninsula, the Saltwater Country project along the north-west Kimberley coastline, the Coastal Landcare project at Broome, the Karrajarri Coastal Management at Port Smith involving Karrajarri Rangers, the Freshwater Sawfish project on the Fitzroy River, and the Rivercare project based on the development of a Fitzroy River Action Management Plan. Alongside these are activities aimed at developing consolidated 'looking after country' plans across the region combining the resources of the Kimberley Land Council, the Kimberley Aboriginal Law and Culture Centre (KALACC), the Kimberley Aboriginal Pastoral Association, and the Kimberley Language Resource Centre. An example of this was the establishment by KALACC and the Yiriman Project of a pilot community ranger program at the Jarlmadangah Burru Community in 2006 with options now being explored to extend training and employment pathways for Aboriginal Rangers along the lower Fitzroy River. In the urban context, Yawuru

Table 34. Extra Indigenous jobs required in the West Kimberley by 2021

Assumed employment/ population ratio in 2006	Base employment 2006[4]	Total jobs required by 2021[5]	Extra jobs required by 2021
53.8[1]	3,603	4,926	1,323
19.5[2]	1,304	1,785	481
77.1[3]	1,304	7,059	5,755

Notes: 1. The 2001 census-derived Indigenous employment/population ratio inclusive of CDEP.
2. The 2001 census-derived Indigenous employment/population ratio exclusive of CDEP (mainstream employment).
3. The non-Indigenous census-derived mainstream employment/population ratio in 2001.
4. From Table 19.
5. Based on projection of Indigenous adult population by 2021 (9,156).

are involved in the Roebuck Bay Working Group producing a draft management plan for Roebuck Bay. What is not known (for want of consolidated administrative data), but what should usefully be established, is the collective number and nature of employment positions generated by these projects and the potential for future likely outcomes.

ESTIMATING FUTURE LABOUR FORCE STATUS

In recent years, the thrust of government policy aimed at reducing welfare dependence and raising economic status, has been towards increasing mainstream employment, especially in the private sector. As we have seen, this had not been adequately achieved in the West Kimberley. What then is the scale of the task ahead for this policy aim to be achieved? To establish this, we can use the projection of the future size of the working age population and consider this against variable aspirations in terms of regional employment rates.

Indigenous population totals for the West Kimberley as a whole projected to 2021 are shown in Table 33 by selected age groups, together with numeric and percentage change from the 2006 projected estimate. Overall, by 2021, the Indigenous adult population is projected to increase by 36 per cent (or an average of 2.1% per annum) to reach a population of 9,156—an increase of almost 2,500 persons. Realistically, a focused age grouping is most appropriate for establishing future needs. If those in the age range 15–44 are selected as the ones most likely to be targeted for emerging opportunities in the regional labour market in the years ahead, this age group is set to increase by 1,712. Here, though, we consider just the broad implications for future Indigenous employment requirements of growth in the working age population as a whole.

Three future employment scenarios are explored in Table 34. The first considers the number of Indigenous jobs that would be required in the West Kimberley by 2021 if the 2001 Indigenous employment/population ratio (assumed here to be the same in 2006) were to remain unchanged at 53.8 per cent (inclusive of CDEP).

The answer is 4,926 jobs, or an additional 1,323. The second scenario considers the extra jobs required to maintain the reported mainstream employment population ratio of 19.5 per cent. This reveals a requirement for an extra 481 mainstream jobs. The final scenario considers the future job requirements necessary to raise the Indigenous mainstream employment/population ratio to that recorded for non-Indigenous residents (77.1%). This produces a requirement for an additional 5,755 jobs, massively in excess of the numbers currently employed in mainstream work. In effect, to close the regional gap with the non-Indigenous workforce, the number of Indigenous people in work (including in CDEP) across the West Kimberley would need to more than double over the next 15 year period, with almost 120 additional jobs created and occupied each year.

The pressing question that arises from this is whether current policy settings have the capacity to deliver? If recent regional trends in Indigenous employment growth are any guide it would seem that much depends on the future course of policy regarding CDEP participation. As noted earlier, the reason for this is that almost all of the growth in Indigenous employment in the West Kimberley over the most recent period for which we have comprehensive data (1996–2001) was due to increased CDEP scheme participation. Over this period CDEP employment grew by 4.1 per cent per annum, compared to growth of only 1.1 per cent per annum for all other (mainstream) Indigenous employment. Given the recent changes to government policy for CDEP, it seems inevitable that CDEP participant numbers will decline, thus reversing the trend of the past two decades and placing all responsibility for enhancing Indigenous labour force status on to mainstream employers in the private and public sectors.

To summarise, because of projected growth in working age population, even if substantial employment targets for local Indigenous people are met, this may not result in any noticeable change in the Indigenous employment/population ratio. Whatever impact on Indigenous labour force participation might arise from any employment policy initiatives in coming years, the experience in previous years of an overall regional decline in Indigenous mainstream employment, and the enormity of the task in hand required to turn this around, suggests that all areas of the regional labour market will need to be opened up as potential avenues for engagement. While this is particularly so among major regional employment sectors (tourism, agriculture, retailing, mining, State government services) from which Indigenous people are notably absent, it reinforces the substantial role that CDEP has played in supporting labour force participation across a wide range of activities.

EMPLOYMENT AND WELFARE INCOME

Indigenous people in the West Kimberley have a number of potential sources of cash income. These range from wage labour in CDEP or in more mainstream forms of work, unemployment benefit and other benefit payments from Centrelink, compensation or other agreed payments to traditional land owners, and private income from the sale of art works, crafts and other products. Set against these, of course, are routine deductions from income at source, such as those for house rent and power charges. Other income may also

derive from the utilisation of land and marine faunal and floral resources, but this may only be imputed and, in any case, little or no data exist.

Accurate data on income levels and employment and non-employment sources of income are notoriously difficult to obtain due to a variety of conceptual problems. For one thing, most measures of income refer to a period of time, such as annual or weekly income, whereas the flow of income to individuals and households within the region is often intermittent. Census data, for example, are collected for all sources of income in respect of a 'usual week' and then rounded up to annual income. What might constitute 'usual weekly' income in many Indigenous households is difficult to determine. On the credit side, there is the likelihood of intermittent employment and windfall gains from sources such as gambling, cash loans, artwork, and compensation payments. This sort of income combines with debits (for example due to loss of employment or cash transfers to others) to create a highly complex picture even over a short space of time, and one that census methods of data gathering are likely to misrepresent.

Even if adequate questions were asked regarding income, high levels of population mobility would make it difficult to establish a consistent set of income recipients over a period of time. This is further complicated by job mobility, with individuals often employed on a casual or part-time basis and moving into and out of longer-term jobs. As for the circulation of cash between individuals and households, information on this is non-existent. Also lacking are data on expenditure, although a common pattern reported from elsewhere is one of cash feast-and-famine against a background of high costs for essentials such as food and transport (Beck 1985: 89; Rowse 1988; Taylor & Westbury 2000).

The census provides the most comprehensive public source of income data for the region based on a consistent methodology. It should be noted, however, that census data report income in categories, with the highest category left open-ended. Consequently, actual incomes have to be derived. In estimating total and mean incomes, the mid-point for each income category is used on the assumption that individuals are evenly distributed around this mid-point. The open-ended highest category is problematic, but it is arbitrarily assumed that the average income received by individuals in this category was one-and-a-half times the lower limit of the category.

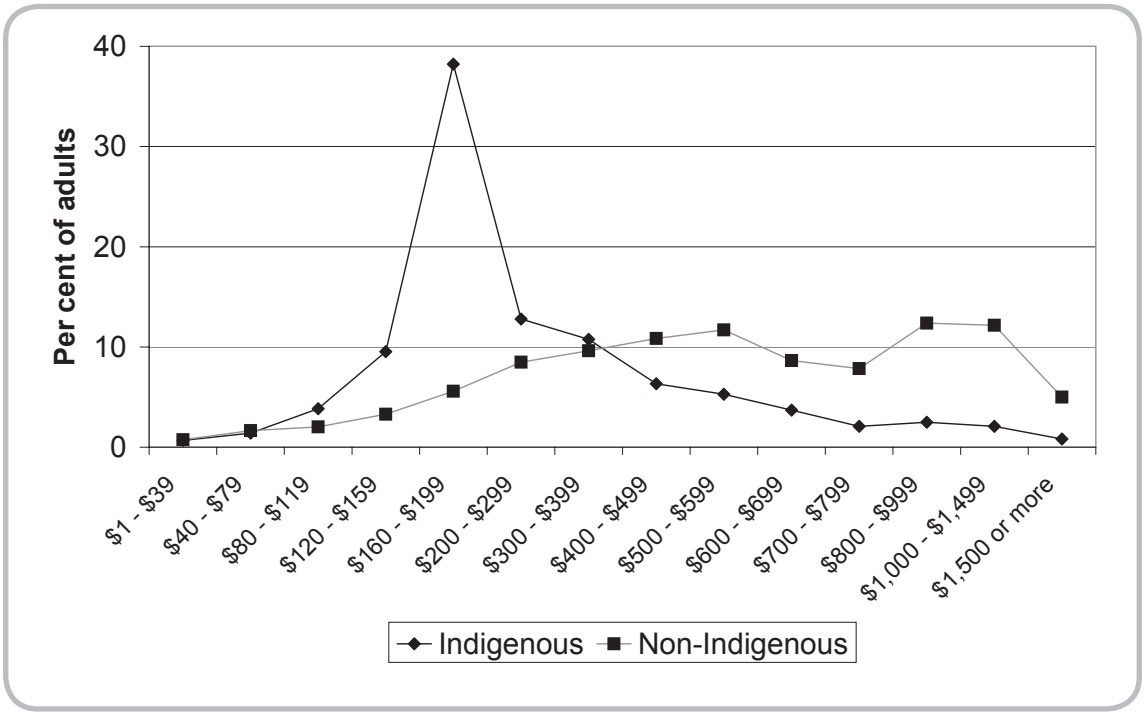
Also, the gross income reported in the census is intended to include family allowances, pensions, unemployment benefits, student allowances, maintenance, superannuation, wages, salary, dividends, rents received, interest received, business or farm income, and worker's compensation received. Whether all such sources are reported is unknown. One distinct advantage of census data, however, is that it provides a means by which an estimate of dependence on income from welfare can be derived. This is done by cross-tabulating data on income with labour force status as a basis for distinguishing employment income from non-employment income, the latter being considered a proxy measure of welfare dependence.

INCOME DISTRIBUTION

Figs 26 and 27 show the relative personal income distribution for Indigenous and non-Indigenous adults enumerated in the two West Kimberley SLAs in 2001. It is clear that the bulk of Indigenous people have incomes at the lower end of the distribution with a clustering in both regions around $199 per week ($10,400 per annum) and a steady falling off thereafter. More than three quarters of Indigenous incomes (77% in Broome and 86% in Derby-West Kimberley) are less than $400 per week ($20,800 per annum) which is the point at which the two sets of distributions crossover. In contrast, 69 per cent of non-Indigenous incomes in the Broome SLA and 71 per cent in the Derby-West Kimberley SLA are above this level, and the non-Indigenous distribution both rise at the higher end with almost one-fifth of incomes (17 and 19% respectively) above $1,000 per week.

Indigenous household incomes also fall substantially behind those of non-Indigenous households (as indicated in Figs 28 and 29) with more than half of all Indigenous household incomes (53% in both SLAs)

Fig. 26. Weekly personal income distribution of Indigenous and non-Indigenous adults in the Broome SLA, 2001

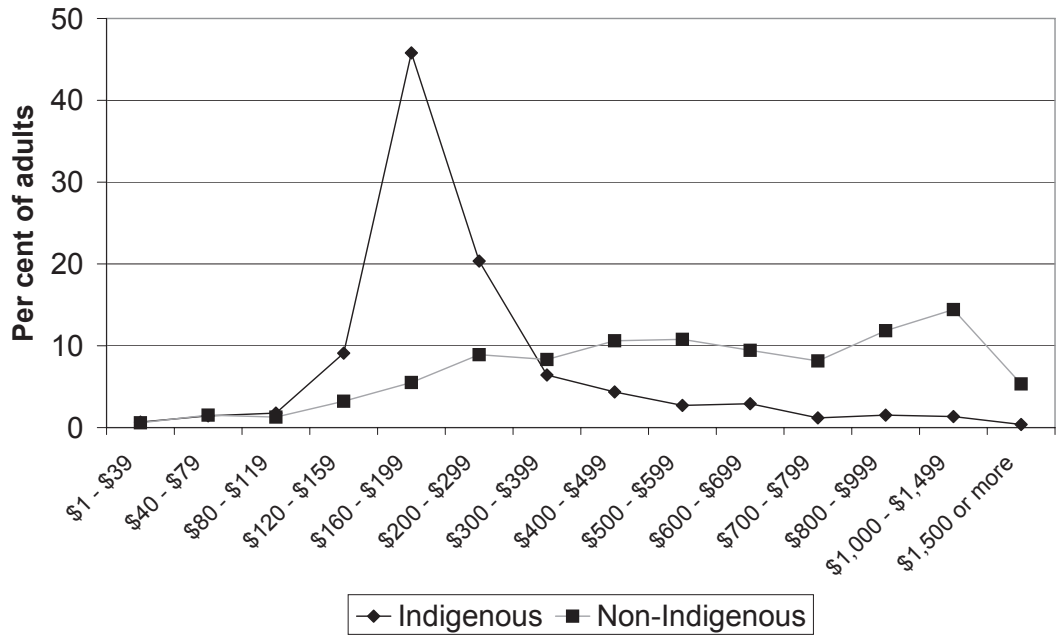


Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

falling below $700 per week. By contrast, two-thirds of all non-Indigenous household incomes (66% in the Broome SLA and 64% in the Derby-West Kimberley SLA) fall above this level, with almost one-quarter in the top two income brackets over $1,500 per week.

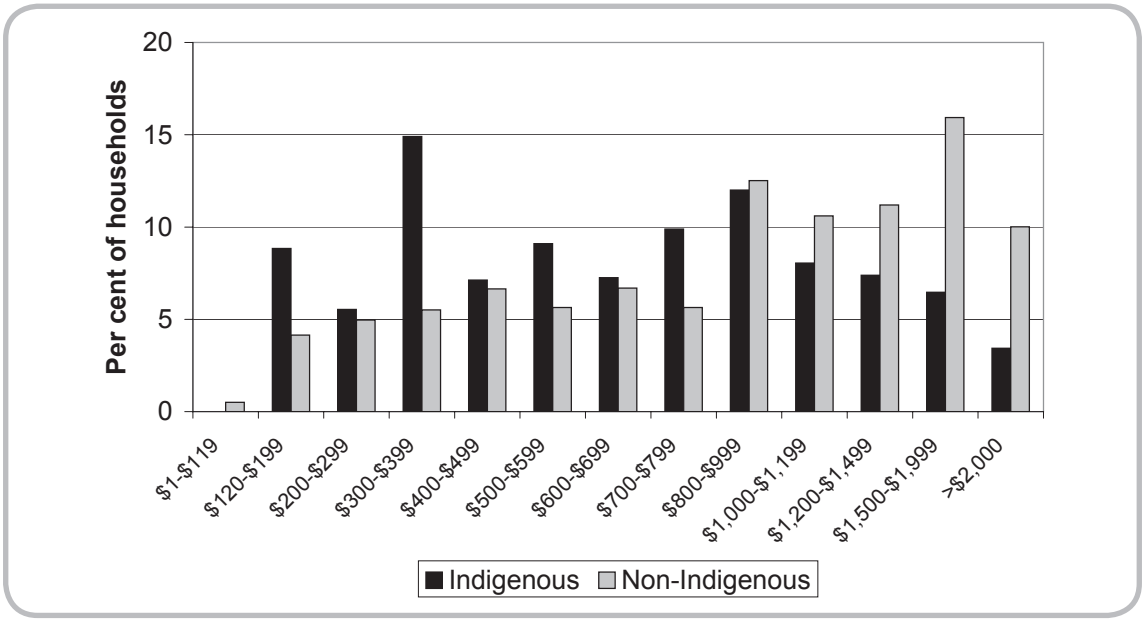
As with many social indicators, the average for each SLA masks considerable intra-regional diversity of circumstance. One of these is the variable relationship between family and household incomes and average household sizes. The distribution of Indigenous and non-Indigenous family and household incomes are shown for each IA within the two SLAs together with average household size in Tables 35 and 36. While the gap in relative incomes is everywhere substantial, this is exacerbated for Indigenous households by their larger household size and need to support a greater number of dependents on smaller budgets. This difficulty appears most acute in Bidyadanga and Yungnora, where average household sizes are greatest, but relative to the non-Indigenous population family and household income inadequacies are everywhere prevalent.

Fig. 27. Weekly personal income distribution of Indigenous and non-Indigenous adults in the Derby-West Kimberley SLA, 2001



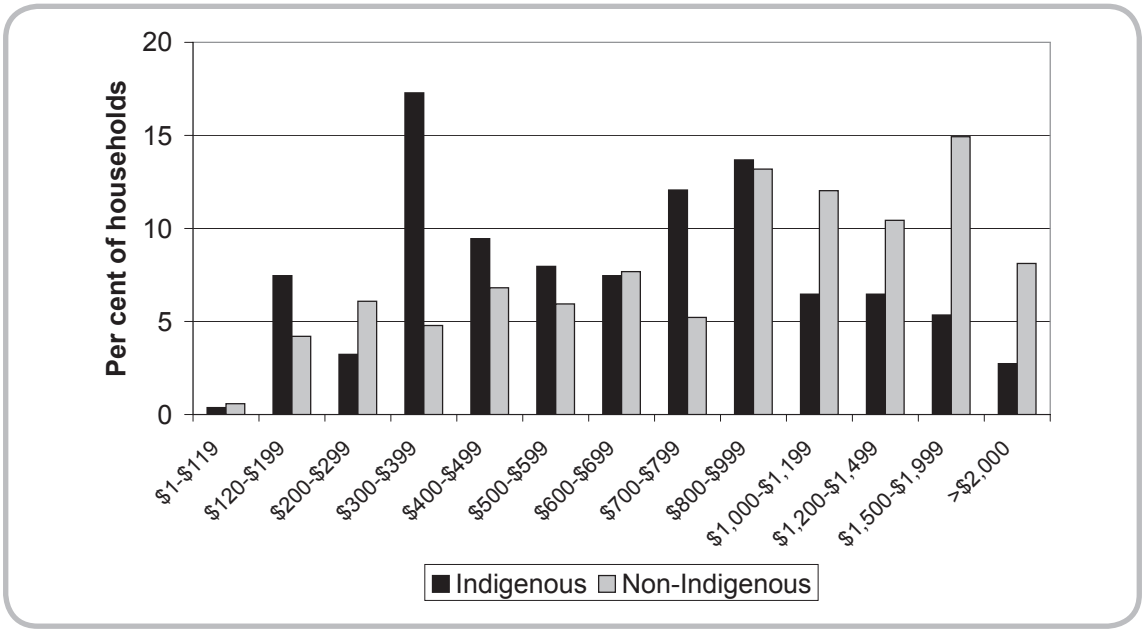
Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Fig. 28. Indigenous and non–Indigenous weekly household income: Broome SLA, 2001



Source: ABS 2002.

Fig. 29. Indigenous and non–Indigenous weekly household income: Derby–West Kimberley SLA, 2001



Source: ABS 2002.

Table 35. Indigenous and non-Indigenous median family and household weekly incomes by Indigenous Area: Broome SLA, 2001

Indigenous Area	Indigenous family income	Indigenous household income	Mean Indigenous household size
Bardi	$400 - $499	$500 - $599	4.9
Beagle Bay	$600 - $699	$700 - $799	5.6
Bidyadanga	$400 - $499	$700 - $799	6.0
Broome	$600 - $699	$600 - $699	3.7
Broome Pastoral	$400 - $499	$500 - $599	3.6
Djarindin/Lombadina	$400 - $499	$400 - $499	4.2
Indigenous Area	**Non-Indigenous family income**	**Non-Indigenous household income**	**Mean non-Indigenous household size**
Bardi	n/a	n/a	n/a
Beagle Bay	$1,000 - $1,199	$600 - $699	3.5
Bidyadanga	$800 - $999	$500 - $599	2.4
Broome	$1,000 - $1,199	$800 - $999	2.6
Broome Pastoral	$700 - $799	$600 - $699	3.0
Djarindin/Lombadina	$700 - $799	$600 - $699	2.5

Source: ABS 2002.

REGIONAL PRICES INDEX

Part of the difficulty in assessing the adequacy of income lies in establishing its purchasing power. This is a complex calculation for which the full range of necessary data inputs (usually acquired from a household income and expenditure survey) are simply not available for this region. However, the Western Australian government has in the past (up to 2000) developed a Regional Prices Index based on relative costs of food, clothing, housing, household equipment, transportation, health and personal care and recreation and education. The Kimberley sample for this exercise was drawn from Broome, Derby and Kununurra. In 2000, relative prices in the Kimberley were 13 per cent higher overall compared to Perth (Government of Western Australia 2001). Developing this index further, the KDC has established 2001 estimates of the additional average income required (over and above existing average income) to compensate for this price differential. Thus, it is estimated that a single unemployed person in the Kimberley on $257 per week would be able to purchase goods to the value of 11 per cent less that an equivalent person in Perth. In order to match the Perth expenditure pattern, the Kimberley individual would require an income almost 14 per cent higher.

Table 36. Indigenous and non-Indigenous median family and household weekly incomes by Indigenous Area: Derby-West Kimberley SLA, 2001

Indigenous Area	Indigenous family income	Indigenous household income	Mean Indigenous household size
Bayulu	$400 - $499	$600 - $699	6.1
Derby	$700 - $799	$700 - $799	3.9
Derby-West Kimberley Central	$400 - $499	$700 - $799	5.5
Derby-West Kimberley North	$300 - $399	$300 - $399	4.1
Fitzroy Crossing	$400 - $499	$500 - $599	4.5
Fitzroy River	$400 - $499	$600 - $699	4.7
Looma	$400 - $499	$500 - $599	5.2
Mowanjum	$600 - $699	$800 - $999	7.2
Yungnora	$400 - $499	$700 - $799	8.1

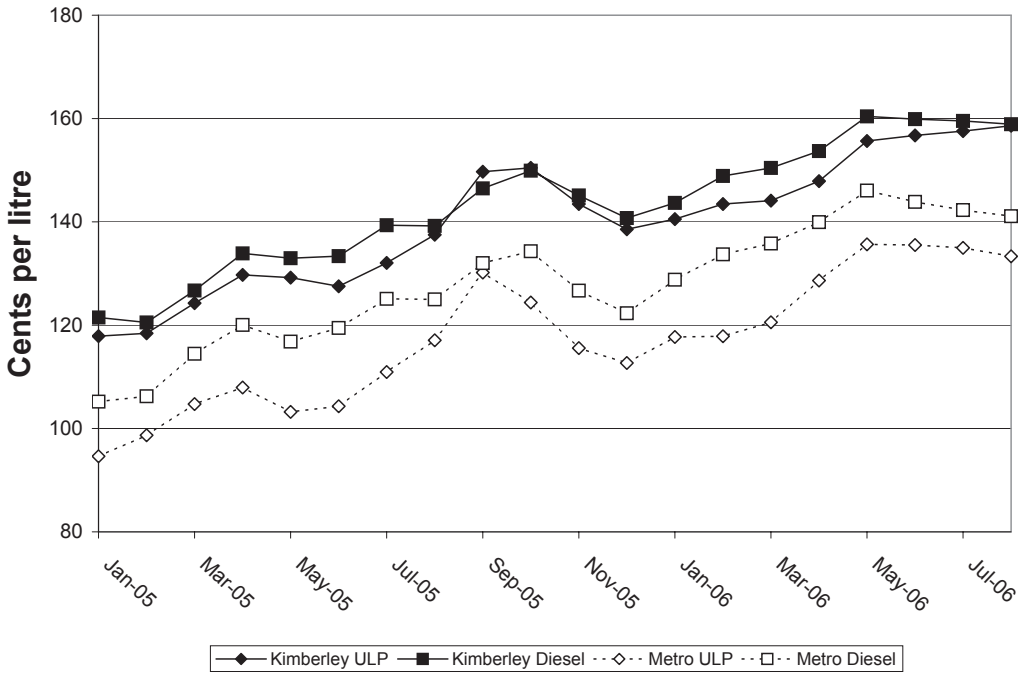
Indigenous Area	Non-Indigenous family income	Non-Indigenous household income	Mean non-Indigenous household size
Bayulu	n/a	n/a	n/a
Derby	$1,000 - $1,199	$800 - $999	2.4
Derby-West Kimberley Central	$500 - $599	$400 - $499	2.5
Derby-West Kimberley North	$600 - $699	$400 - $499	3.3
Fitzroy Crossing	$1,200 - $1,499	$1,000 - $1,199	2.7
Fitzroy River	$700 - $799	$800 - $999	3.3
Looma	n/a	n/a	n/a
Mowanjum	n/a	n/a	n/a
Yungnora	>$2,000	$800 - $999	3.5

Source: ABS 2002.

Likewise, for an employed person in the Kimberley on an average of $756 per week, real income after price indexation converts to just $672.

A more contemporary measure of price differentials for one important cost item is available from the Western Australian government's Fuel Watch database. As shown in Fig. 30, this indicates that over the past 18 months average prices for unleaded fuel have been consistently 20 per cent higher in the Kimberley compared to Perth, and for diesel, 12 per cent higher. According to analysis by the KDC, over the longer period of the past six years, the average differential for fuel prices has been as much as 16 per cent. Given the frequent movement of Indigenous people over large distances across the region (often to access services) this price gap represents a substantial expenditure burden.

Fig. 30. Average price for unleaded petrol and diesel in the Kimberley and Perth between 1 January 2005 and 31 August 2006



Source: Government of Western Australia, Fuel Watch.

EMPLOYMENT AND NON-EMPLOYMENT INCOME

The relative contribution made to total income from employment as opposed to from other sources is an important factor in terms of the economic situation facing Indigenous people in the regional economy of the West Kimberley. Approximate parity between incomes derived from social security and those derived from employment (after tax) is likely unless there is sufficient participation in well-paying jobs. This is important in terms of regional labour supply, as it argued generally for Indigenous people that the gap between welfare and earned income is sufficiently low as to discourage job seeking (Daly & Hunter 1999). However, in the West Kimberley, this relationship is diluted somewhat by the substantial reliance to date on CDEP for Indigenous employment generation.

Table 37 shows Indigenous and non-Indigenous annual average personal incomes by labour force status separately for the populations of Broome and Derby-West Kimberley SLAs. The ratios of Indigenous to non-Indigenous incomes for each region are also shown. Clearly, employment in the mainstream labour market returns higher personal income compared to CDEP. However, Indigenous people in mainstream work lag considerably behind their non-Indigenous counterparts, with income levels 23 per cent lower in the Broome SLA and 30 per cent lower in Derby-West Kimberley. Also of note is the fact that Indigenous non-employment income is substantially lower than equivalent non-Indigenous income, especially for those not in the labour force. Reasons for this are not clear, but it is worth asking whether it might reflect underpayment of benefits to Indigenous residents. Overall, average Indigenous incomes are almost 75 per cent lower than non-Indigenous incomes in the Broome SLA and 67 per cent lower in Derby-West Kimberley.

Given the relative lack of labour force participation and mainstream employment observed for the Indigenous population of the West Kimberley, it is important to establish an estimate of the overall reliance on income from non-employment (mostly government transfer payments) sources compared to income from employment. Furthermore, because CDEP employment comprises such a substantial share of gainful activity, it is also necessary to establish a separate estimate of the income value of this form of employment compared to more mainstream work. Accordingly, census-based estimates of the dollar contribution to gross regional income from employment and non-employment sources in 2001 is shown for the two SLAs in Tables 38 and 39.

Table 37. Indigenous and non-Indigenous annual average personal income ($) by labour force status: Broome and Derby-West Kimberley SLAs, 2001

	CDEP	Mainstream	Unemployed	Not in labour force	Total
			Broome ($)		
Indigenous (1)	15,717	30,340	13,262	11,816	25,699
Non-Indigenous (2)	n/a	39,297	13,039	14,551	34,068
Ratio (1/2)	n/a	0.77	101.7	0.81	0.75
			Derby-West Kimberley ($)		
Indigenous (1)	11,047	29,544	10,319	10,533	24,986
Non-Indigenous (2)	n/a	42,303	11,456	13,706	37,157
Ratio (1/2)	n/a	0.70	0.90	0.77	0.67

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 38. Estimated gross annual personal income ($) by income source for Indigenous and non-Indigenous adult residents of the Broome SLA, 2001

Income source	Indigenous	Non-Indigenous	Total	Indigenous per cent of income source
CDEP	10,436,400	N/A	10,436,400	100.0
Mainstream employment	16,868,800	171,805,400	188,674,200	8.9
Unemployment	1,710,800	2,931,760	4,642,560	36.9
Not in the labour force	9,713,080	14,580,280	24,293,360	40.0
Total	38,729,080	189,317,440	228,046,520	17.0
Per cent of income from non employment (ex CDEP)	29.5	9.3	12.7	
Per cent of income from non-employment (inc CDEP)	56.4	9.3	17.3	

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 39. Estimated gross annual personal income ($) by income source for Indigenous and non-Indigenous adult residents of the Derby-West Kimberley SLA, 2001

Income source	Indigenous	Non-Indigenous	Total	Indigenous per cent of income source
CDEP	11,433,240	N/a	11,433,240	100.0
Mainstream employment	11,256,440	55,923,920	67,180,360	16.8
Unemployment	856,440	717,600	1,574,040	54.4
Not in the labour force	8,710,520	3,494,920	12,205,440	71.4
Total	32,256,640	60,136,440	92,393,080	34.9
Per cent of income from non employment (ex CDEP)	29.7	7.0	14.9	
Per cent of income from non-employment (inc CDEP)	65.1	7.0	27.3	

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 40. Percentage distribution of estimated gross annual personal income by income source for Indigenous and non-Indigenous adult residents of the Broome SLA, 2001

	Indigenous	Non-Indigenous
CDEP	26.9	N/a
Mainstream employment	43.6	90.8
Unemployment	4.4	1.5
Not in the labour force	25.1	7.7
Total	100.0	100.0

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 41. Percentage distribution of estimated gross annual personal income by income source for Indigenous and non-Indigenous adult residents of the Derby-West Kimberley SLA, 2001

	Indigenous	Non-Indigenous
CDEP	35.4	N/a
Mainstream employment	34.9	93.0
Unemployment	2.7	1.2
Not in the labour force	27.0	5.8
Total	100.0	100.0

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

These calculations indicate that the total gross annual personal income accruing to all adult residents of the West Kimberley as a whole in 2001 amounted to $320 million. However, only 22 per cent of this amount ($71 million) went to Indigenous residents despite the fact that they accounted for well over one third (38%) of the adult population. Of greater interest is the fact that only 11 per cent of the total income generated by mainstream employment in the West Kimberley accrued to Indigenous workers. The implications of this are reflected in the relative levels of income derived from non-employment sources, with as much as 30 per cent of total Indigenous income in the West Kimberley attributable to this category compared to only 8 per cent of non-Indigenous income. If CDEP income is also considered to be non-employment sourced (owing to its notional link to Newstart Allowance), then the level of Indigenous reliance on government transfer payments rises to 61 per cent.

These relativities are reinforced by the data in Tables 40 and 41. In the Derby-West Kimberley SLA the share of total Indigenous income derived from CDEP exceeds that from mainstream employment, and while the

Table 42. Estimated gross annual personal income ($) by income source for Indigenous and non-Indigenous adult residents of the Broome LGA, 1981

	Indigenous	Non-Indigenous	Total	Indigenous per cent share of income
Mainstream employment	2,254,000	11,613,000	13,867,000	16.3
Unemployment	309,000	132,500	441,500	70.0
Not in the labour force	1,670,500	683,000	2,353,500	71.0
Total	4,233,500	12,428,500	16,662,000	25.4
Per cent from non-employment	46.8	6.6	16.8	

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

Table 43. Estimated gross annual personal income ($) by income source for Indigenous and non-Indigenous adult residents of the Derby-West Kimberley LGA, 1981

	Indigenous	Non-Indigenous	Total	Indigenous per cent share of income
Mainstream employment	2,838,500	24,728,000	27,566,500	10.3
Unemployment	404,000	126,000	530,000	76.2
Not in the labour force	2,558,000	779,000	3,337,000	76.7
Total	5,800,500	25,633,000	31,433,500	18.5
Per cent from non-employment	51.1	3.5	12.3	

Source: ABS 2001 Census of Population and Housing, customised usual residence tables.

income flow from mainstream employment in the Broome SLA is more significant, this is still way below the non-Indigenous share.

While it is recognised that CDEP represents a significant injection into the regional economy (Johnson 2001), it should be noted that the CDEP income figures presented here are likely to be underestimates. Information gathered directly from CDEP program providers in 2006 indicates a total pay-out of CDEP wages in the West Kimberley of $38 million—an average of around $13,600 per participant, which is lower than the census-derived estimate. As noted earlier, the regional economic impact of CDEP is actually greater than this due to an additional amount expended ($12 million) for CDEP on-costs (equipment and materials).

This distribution of income by notional source is of interest when compared to that recorded for Indigenous people across remote Australia by the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS). This revealed that CDEP accounted for 30 per cent of Indigenous incomes, that other wages and salaries accounted for just 19 per cent, and that government pensions and allowances accounted for the bulk of the balance (ABS 2004b: 28) Thus, compared to the average for remote Australia, the West Kimberley appears to have a similar degree of reliance on CDEP income, less reliance on other government payments, and a higher contribution to income from mainstream wages and salaries. However, as we shall see, there are questions surrounding the real level of overall dependence on government payments as estimated from census data, while the level of CDEP income has already been shown to be substantially greater.

Nonetheless, it is interesting to compare these 2001 levels and ratios with those recorded 20 years earlier in 1981. These are shown in Tables 42 and 43, and indicate that the Indigenous share of gross regional income has fallen from 25 per cent to just 17 per cent in the Broome SLA, whereas in the Derby-West Kimberley SLA it has risen from 18 per cent to 35 per cent. This pattern aligns with other important underlying trends in terms of income sources. In considering these, it should be noted that due to the absence of CDEP in the region in 1981, employment income recorded for that year is effectively derived from mainstream work.

With this in mind, the ratio of Indigenous to non-Indigenous mainstream employment income in Broome fell from 0.19 in 1981 to 0.10 in 2001, whereas in Derby-West Kimberley it rose from 0.11 in 1981 to 0.20 in 2001. Thus, it would appear that while an income gap has opened up between Indigenous and non-Indigenous mainstream workers over the past 20 years in the Broome region, it has narrowed in Derby-West Kimberley. Accordingly, the Indigenous share of income from mainstream employment also appears to have fallen in the Broome region (from 16 to 9%), and risen in Derby-West Kimberley (from 10 to 17%). While these are quite striking inter-regional trend variations, they are primarily a simple indication of the more rapid absolute growth of non-Indigenous earnings in the Broome region over the past 20 years.

CENTRELINK PAYMENTS

Because the census-based calculation of non-employment income provides only a proxy measure of dependency on welfare spending, attempts have been made in a number of previous studies to establish a more precise measure of this using administrative data on the composition of welfare income obtained from Centrelink. These data typically produce a higher estimate of welfare income than that generated from the census (Taylor & Scambary 2005; Taylor & Westbury 2000), and are much more in line with the 2002 NATSISS finding that 45 per cent of Indigenous people in remote Australia relied on government payments as their main source of income.

While it is not easy to directly compare income estimates from census data with those derived from administrative records, in order to gain a clearer and more contemporary picture of the composition of Indigenous welfare income, information was obtained from Centrelink on the amounts paid in benefits (excluding CDEP) at each postcode in the study region (WA6725, WA6728, WA6726, WA6731, WA6733, WA6765) for a single fortnight in 2006 (fortnight up to 5 May 2006). Before considering these data, a

Table 44. Indigenous and non-Indigenous Centrelink customers by payment type: West Kimberley, 2006[1]

Payment type	Indigenous	Non-Indigenous	Total	Indigenous per cent of total
Newstart	356	149	505	70.5
Partner allowance	<20	<20	<20	n/a
Widow allowance	<20	<20	<20	n/a
Youth allowance	42	72	114	36.8
Total NSS	**398**	**221**	**619**	**64.3**
Age pension	310	222	532	58.3
Carer pension	158	29	187	84.5
Disability support	688	319	1,007	68.3
Parenting payment single	607	149	756	80.3
Total Pensions	**1,763**	**719**	**2,482**	**71.0**
Abstudy	852	0	852	100.0
Parenting Payment Partnered	237	43	280	84.6
Total Other	**1,089**	**43**	**1,132**	**96.2**
Total payments[2]	**3,250**	**983**	**4,233**	**76.8**

Note: 1. As at May 2006. Excludes Family Tax Benefit.
Source: Centrelink National Support Office.

number of caveats should be noted. First, they are point in time, although an assumption is made for the purposes of annual calculations that the fortnightly picture presented is consistent throughout the year (this is done by simply multiplying the fortnightly payments by 26). Second, Indigenous status is not a compulsory field for Centrelink customers, and these data exclude those who did not self-identify in this way. Third, all data cells with a value of less than 20 are suppressed. Finally, customers can receive more than one payment and so aggregate totals shown are of payments, not of discrete customers.

With these constraints in mind, Table 44 shows that, in the West Kimberley as a whole, Indigenous people currently account for more than three quarters of all Centrelink payments despite comprising only 37 per cent of the adult population. Furthermore, Indigenous people account for as much as 70 per cent of all Newstart payments (totalling 356 Indigenous clients), over one-third of all Youth Allowance payments, and more than two-thirds of all disability payments (688 Indigenous adults). This latter figure is potentially significant in terms of regional labour supply. If we subtract this number from the ranks of those not in the

labour force shown in Table 19 (on the assumption that they are not available for work with due deference to new federal initiatives encouraging workforce participation by those on disability pensions), then at a stroke this would reduce the number in this cohort who might theoretically be drawn into the labour force by 25 per cent to 2,083.

In addition to these customer numbers, information was obtained on the total amounts disbursed to Indigenous customers by each payment type for the fortnight preceding 5 May 2006. By summing and annualising these it is estimated that total Centrelink payments to Indigenous adults in the West Kimberley would amount to at least $24.4 million in 2006 (the proviso here is based on the exclusion of Abstudy and Family Tax Benefit payments, as well as the fact that Indigenous status is under-reported). Of course, along with additional methodological uncertainties all that can be confidently stated is that the amount of annual welfare income paid out to Indigenous adults in the study region is at least $25 million. Surprisingly, this accords reasonably well with the figure of $21 million estimated from 2001 Census data (Tables 38 and 39), although the provisos above compromise any meaningful comparison.

SCHOOLING AND VOCATIONAL AND TECHNICAL EDUCATION: PARTICIPATION AND OUTCOMES

There are two broad perspectives against which the purpose and performance of education in the region may be assessed. The first is culturally grounded and considers what Indigenous people want from education. According to one analyst, with reference to Arnhem Land communities, many Indigenous people selectively procure aspects of Western education and ignore others that do not suit their needs and aspirations (Schwab 1998). Consequently, what is desired from education in general, and from schools in particular, can be very different to what these western institutions expect. These desires have been conceptualised in terms of the acquisition of core competencies to deal with the non-Indigenous world, the capacity for cultural maintenance, and access to material and social resources (Schwab 1998: 15).

The second derives from an economic development model and stresses a need to acquire human capital skills in order to participate in the mainstream economy. From this perspective, outcomes from schooling are measured in terms of participation rates, grade progression, competence in numeracy and literacy skills, and, for the Vocational and Technical Education (VTE) sector, course completion. Given the need to develop a statistical profile of the regional population, and to draw comparison with non-Indigenous people and Indigenous people elsewhere in the state, the entire focus here is on the second perspective. This is not deny that skills acquired outside formal educational processes cannot, and do not, lead to Indigenous participation in the regional economy in other more informal ways. The problem for socioeconomic profiling is that these more culturally grounded attributes are more difficult to quantify and therefore lack readily accessible data sources.

SCHOOLING

A total of 24 schools are located in the West Kimberley region administered by three different education sectors—government, Catholic, and Aboriginal independent. Collectively, they incorporate three high schools, one college, five primary schools, 14 Aboriginal community schools, and the Kimberley School of the Air. Table 45 indicates the number of Indigenous enrolments in each government school together with the Indigenous percentage of these enrolments shown in parentheses.

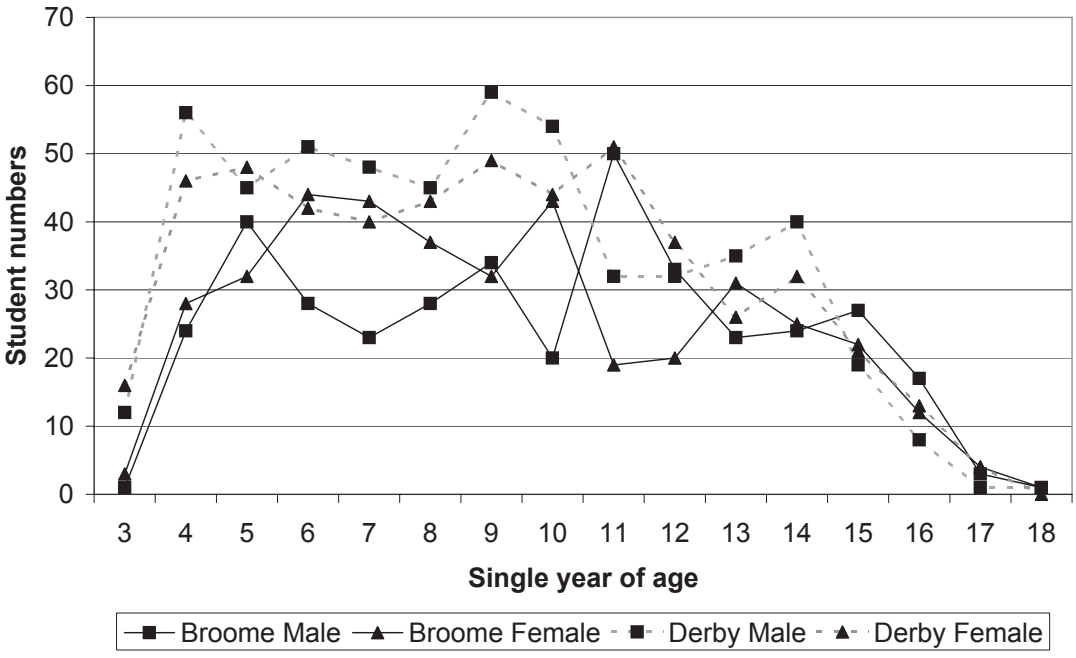
As can be seen, in line with the demographic composition of the West Kimberley with its relatively younger Indigenous population, the majority of schools have predominantly Indigenous enrolments. Out of a total of 5,209 students enrolled from Kindergarten to Year 12 in West Kimberley schools in the first semester of 2006, as many as 3,230 (62%) were Indigenous. However, the geographic distribution of Indigenous

Table 45. Indigenous enrolments in government and non-government schools in the Broome and Derby-West Kimberley SLAs, 2006

Broome	No.	%[1]	Derby-West Kimberley	No.	%[1]
Broome Senior High School	147	41	Derby District High School	346	74
Broome Primary School	200	49	Fitzroy Crossing District High School	234	91
Roebuck Primary School	51	12	Djugerari Remote Community School	16	100
Cable Beach Primary School	167	41	Wangkatjungka Remote Community School	85	100
La Grange Remote Community School	171	97	Bayulu Remote Community School	115	97
One Arm Point Remote Community School	103	98	Looma Remote Community School	117	99
Sacred Heart School	74	92	Wananami Remote Community School	40	100
Djarindjin Lombadina Catholic School	89	100	Muludja Remote Community School	22	100
St. Mary's College Secondary Campus	99	50	Ngalapita Remote Community School	21	100
St. Mary's College Primary Campus	379	54	Kimberley School of the Air	39	44
			Kulkarriya Community School	72	100
			Yakanarra Community School	50	100
			Wulungarra Community School	27	100
			Nyikina Mangala Community School	28	100
			Holy Rosary School	128	67

Note: 1. Indigenous percentage of total school enrolments.
Source: Western Australia Department of Education and Training.

Fig. 31. Indigenous school enrolments in Broome and Derby-West Kimberley SLAs by single year of age, 2005[1]

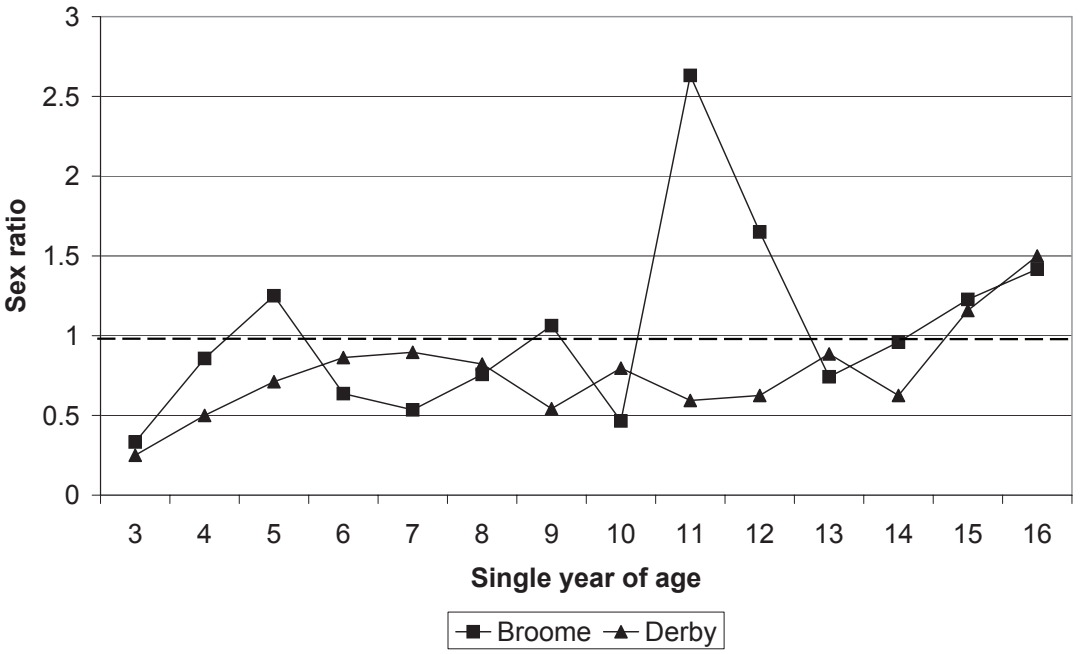


Note: Second semester, includes government and non-government schools.
Source: Western Australia Department of Education and Training.

enrolments was variable comprising just less than half (49%) of enrolments in the Broome SLA and as much as 82 per cent in Derby-West Kimberley. Aside from the remote community government schools and Aboriginal independent schools, Table 45 reveals other major concentrations of Indigenous students throughout the school system. For example, Derby and Fitzroy Crossing District High Schools are essentially Indigenous schools with Indigenous children accounting for 74 and 91 per cent of enrolments respectively. Likewise, Broome and Cable Beach primary schools have substantial Indigenous enrolments.

In terms of the two perspectives on educational purposes and related outcomes posited above, the existence of the Aboriginal Independent school sector is significant and flags an important socio-cultural distinction between schools in different locations, notably between those in the Fitzroy Valley and elsewhere. All of the independent schools are found in proximity to Fitzroy Crossing (Kulkarriya at Yungngora, Yakanarra at Yakanarra, Wulungarra at Kadjina, and Nyikina Mangala at Jarlmadangah Burru), and they were established to meet the aspirations of parents to educate their children on country and within an Indigenous cultural environment. All of these schools are bilingual, with Aboriginal teachers trained on site to teach in the

Fig. 32. Sex ratio of Indigenous school enrolments in Broome and Derby-West Kimberley SLAs by single year of age, 2005[1]



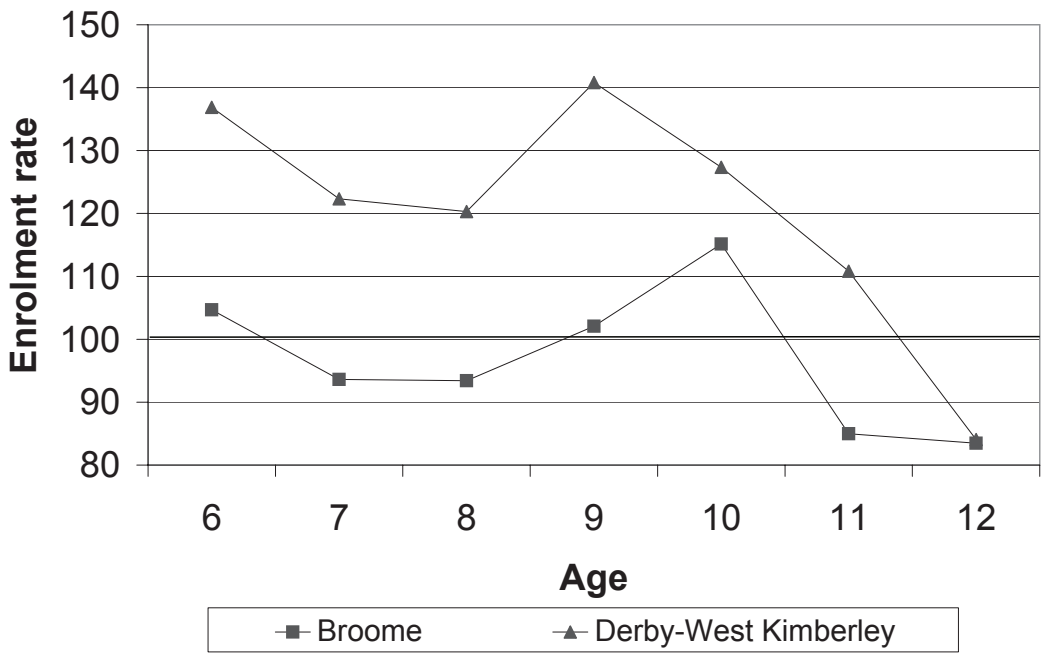
Note: 1. Second semester. Includes government and non-government schools.
Source: Western Australia Department of Education and Training.

Indigenous vernacular. They are run by school committees comprised of representatives from local families. Their aims (and outcomes) are cast much more in terms of the Indigenous social capital model posited above. For example, the aims of the Nyikina Mangala school are to keep children in the community so they can learn to speak their languages, with students relating to each other through kinship structures rather than as class or year level peer groups. Inevitably, this produces a different set of emphases in outcomes to those sought from the mainstream education system, and the distribution of student enrolments by school type (15 per cent of enrolments in Derby-West Kimberley are in Independent schools) provides some measure of the relative importance of social versus human capital outputs from the regional education system.

COMPOSITION OF ENROLMENTS

In the first semester of 2006, a total of 5,209 students were enrolled in West Kimberley schools between Kindergarten and Year 12, while 3,273 were enrolled between Years 1 and 10 (approximate to the compulsory school age range of 6–16 years). Of the latter, 2,058 were Indigenous students representing 63 per cent of the total compulsory age enrolment. An additional 255 students were enrolled in Years 11 and 12, and most

Fig. 33. Indigenous school enrolment rates in Broome and Derby-West Kimberley SLAs by single year of age, 2006[1]



Notes: 1. Projected ERP as at 30 June 30 2006. Ages for government school enrolments as at 1 July 2005, all other enrolments are for 2006. Includes government and non-government schools.

Source: Western Australia Department of Education and Training.

of these (145, or 57%) were Indigenous. It is important to note that these enrolment figures are for the first semester of school year 2006, since enrolments tend to fall away somewhat by the second semester. Also, as the enrolment data by single year of age for the second semester of 2005 reveal in Fig. 31, there appears to be a rapid tailing off in school enrolment across the region for both males and females beyond the age of 15 years.

One reason for this relatively low Indigenous participation in formal education appears to be a relatively steady under-representation of male students, especially in Derby-West Kimberley and especially in pre-school years. This is made clearer in Fig. 32, which shows the sex ratio of Indigenous enrolments by single-year age group from age three to 16. To some degree, these ratios are consistent with the estimated sex ratios from the 2006 population estimates for these age groups in each SLA (generally above parity in Broome and below in Derby-West Kimberley), but even accounting for this there does appear to be a deficit in enrolment among males in compulsory and pre-school years, most consistently in Derby-West Kimberley.

Of course, these data refer to enrolments at schools in the West Kimberley. However, many West Kimberley children of school age, and particularly of secondary school age, attend schools outside of the region—more often than not in the south west of the State. An indication of the number of such students is available from ABSTUDY records held by Centrelink for the purposes of administering away-from-home and boarding expenses. In April of 2006, these records revealed that a total of 307 Indigenous students with a usual address in the West Kimberley were attending secondary schools in other areas of Western Australia. Unfortunately, disaggregating the characteristics of these students by single year of age, sex, and SLA of usual residence is not possible because of confidentiality constraints.

An additional perspective on school enrolments is provided by calculating enrolment rates for compulsory primary ages (6–12 years inclusive) and secondary ages (13–16 years inclusive) set against single-year population estimates for 2006 derived from the low series projection. While Indigenous population estimates by single-year of age were not produced for 2006, a crude estimate can be derived by using the distribution by single-year of age from the 2001 Indigenous ERP for the two SLAs from previous analysis. This exercise is straightforward for the primary years, and the results are shown in Fig. 33. The low series projection data indicate an estimated compulsory primary-age population in June 2006 of 767 in the Broome SLA and 816 in Derby-West Kimberley. Using these figures as the base, enrolment rates by single ages can be calculated. Clearly enrolments in the Broome Shire are close to parity (averaging 96%), though with some apparent variation that may simply reflect problems of concordance between the schools data and age estimates. The more striking feature is the consistent and substantial appearance of rates above 100 per cent in Derby-West Kimberley. This is suggestive of a more substantive concordance issue associated with too few children in the 2001 ABS ERP used as the base for the projection, pointing to likely problems of enumeration and post-census population adjustment.

As for secondary age rates, these are more difficult to establish owing to the fact that so many West Kimberley secondary age students attend school outside of the region. If local enrolments alone are considered, it appears that secondary age rates decline steadily to the point where in the last years of compulsory schooling (ages 15 and 16) less than half of the eligible population is enrolled—more so in Derby-West Kimberley than Broome. On this basis, it would appear that only 67 per cent of the eligible secondary age population in the Broome Shire is enrolled, and only 50 per cent in Derby-West Kimberley. However, it is necessary to add the 307 secondary age students studying out of the region, and when this is done for the compulsory secondary age range 13–16 years as a group we find an overall enrolment rate that is close to parity. This is an indicative finding only owing to the lack of data on single age, sex and Shire of usual residence for those attending secondary schools outside of region. For example, an unknown number of the 307 out-of- region ABSTUDY recipients will be over 16 years of age and so the actual enrolment rates for compulsory secondary ages remains unknown.

Table 46. Apparent retention rates for Indigenous and non-Indigenous students in Western Australian and West Kimberley schools: 2003 and 2005

	Apparent retention rates	
	Year 8 to Year 10	Year 10 to Year 12
WA Indigenous (2003)	93.2	29.3
WA Non-Indigenous (2003)	98.6	70.6
Broome Indigenous (2005)	89.8	32.9
Broome Non-Indigenous (2005)	78.7	56.9
Derby-West Kimberley Indigenous (2005)	78.9	6.8
Derby-West Kimberley Non-Indigenous (2005)	57.9	42.9

Includes Government and non-Government schools.
Source: Western Australia Department of Education and Training; SCRGSP 2005: Tables 3A:22, 32.

RETENTION RATES

Table 46 shows apparent retention rates for Indigenous students in West Kimberley schools from Year 8 to Year 10, and from Year 10 to Year 12. These rates are compared with those recorded for Indigenous students generally in Western Australia, as well as with all non-Indigenous students across the state. The State-wide data are shown for 2003, this being the most recent year for which data are published. The rates represent the proportion of those previously in Year 8 who were retained to Year 10 two years later (2001 to 2003 for the State-wide figures, and 2003 to 2005 for the West Kimberley figures). The same calculation is made in respect of those previously in Year 10 who were retained to Year 12.

While Indigenous retention rates from Year 8 to Year 10 are lower than the State Indigenous average in both SLAs, the more interesting observation is that they are higher than non-Indigenous retention rates in these same SLAs. One likely explanation for this is the high rate of out-migration from the West Kimberley of non-Indigenous families, possibly even with the express intent of pursuing high school education in the south of the State.

From a labour market perspective, retention to Year 12 from Year 10 is of further significance. For non-Indigenous students in Western Australia, this rate falls to 71 per cent, while for Indigenous students the rate is as low as 29 per cent. In the West Kimberley, the rate of retention of Indigenous Year 10 students to Year 12 is quite variable—in the Broome SLA, it stands at 33 per cent (which is higher than the State Indigenous average), whereas in the Derby-West Kimberley SLA it is just 7 per cent (which is substantially below the State Indigenous average). What this means, in effect, is that in semester 1 of 2006, there were a total of 100 Indigenous students in the Broome SLA enrolled in Years 11 and 12, and just 45 in the Derby-West Kimberley SLA. The impact of these retention rates is reflected in census data on the highest levels of schooling completed.

Table 47. Attendance rates[1] for Indigenous and non-Indigenous students in West Kimberley schools: 2005[2]

	Primary (Years 1-7)	Secondary (Years 8-10)
Broome Indigenous	82.8	70.2
Broome Non-Indigenous	93.8	91.8
Derby-West Kimberley Indigenous	75.0	63.1
Derby-West Kimberley Non-Indigenous	94.5	90.9

Notes: 1. Percentage of enrolments.
2. First semester. Includes government schools only and also excludes Bayulu RCS and Kimberley School of the Air.
Source: Western Australia Department of Education and Training.

Table 48. Estimates of Indigenous and non-Indigenous students attending West Kimberley schools: Primary and secondary years, 2005[1]

	Indigenous Year 1–7	Non-Indigenous Year 1-7	Indigenous Year 8–10	Non-Indigenous Year 8–10
Broome	376	719	127	300
Derby-West Kimberley	470	177	124	40
Total	846	896	251	340

Note: 1. First semester.
Source: Western Australia Department of Education and Training.

ATTENDANCE

For most schools in the West Kimberley, the educational impact of relatively low levels of Indigenous school enrolment is compounded by low Indigenous school attendance (Table 47). According to these data, in the region as a whole, less than 80 per cent of Indigenous children enrolled in primary school years actually attend school on a regular basis, with the lowest figure of 75 per cent occurring in Derby-West Kimberley. In Years 8 to 10, these rates are lower still, with less than two-thirds of enrolled students in Derby-West Kimberley schools in attendance. These rates are far lower than those recorded for non-Indigenous students in West Kimberley schools.

We can use the attendance rates shown in Table 47 against the numbers enrolled in each school year to produce estimates of numbers actually attending classes (Table 48). This provides a more realistic picture of participation and is an important device when set against the labour demand and supply issues outlined

above. Thus, in terms of potential Indigenous labour supply emanating from the West Kimberley school system in the next couple of years (current Years 8–10), only 251 individuals have been in regular school attendance evenly divided between schools in the two SLAs.

All of these official data and estimates regarding school access and participation are based on averages. What they do not show, and what would be more important to reveal (though nigh impossible), are the daily levels of individual attendance at school. Given the variability in attendance and high levels of short-term population mobility among the Indigenous population it cannot be assumed that aggregate data refer consistently to the same individuals. Since children often accompany adults in their movements across, into, and out of the region it seems likely that some mobile children may be overlooked as part of the regular school population. Moreover, since attendance registers are taken each morning, no records exist regarding student participation beyond morning sessions. The prospect thus remains that the attendance rates presented here, especially those for Indigenous students, are overly-favourable.

OUTCOMES

As already noted, from the standpoint of participation in regional economic development, educational achievement is a key prerequisite. While studies reveal a clear positive relationship between economic status and level of educational achievement (as measured by standard indicators such as highest level of schooling completed, and post-school qualifications), an important shortcoming is their lack of measurement of the quality of education outcomes. For example, age at leaving school or highest level of schooling completed does not necessarily equate with school-leaving grade level achievement. In fact, for many Indigenous students in remote areas, age or grade level is a poor indicator of achievement, as many Indigenous students perform substantially below their age and grade levels in terms of literacy and numeracy competencies. Thus, while data on participation in the education system provide an important indication of access and utilisation, it should be noted that they are less revealing about outcomes in terms of demonstrated ability, no matter from what perspective this might be measured.

In Western Australia, outcomes from education are measured using benchmarks devised by the Western Australian Literacy and Numeracy Assessment program (WALNA). This is a curriculum-based assessment that tests students' knowledge and skills in numeracy, reading, spelling and writing. The WALNA test is administered annually to all students in Western Australian schools (including Catholic schools) in Years 3, 5 and 7 (although a few exemptions are made). The test gathers information on the performance of school children in relation to nationally-agreed benchmarks in numeracy, reading, spelling and writing, and in relation to that of other Year 3, 5 or 7 students across Western Australia. The national benchmark is an agreed standard of performance that professional educators across the country deem to be the minimum level required for students at particular key stages in their educational development in order to make adequate progress. By providing an indication of how students are faring against the national benchmark and in relation to state performance, the WALNA assessment assists in identifying those students who would benefit from extension, as well as those not meeting the minimum expected standard.

Table 49. Proportion of Western Australian students achieving the national benchmarks in reading: Total and Indigenous populations and MCEETYA geolocations, 2004

	Year 3 (%)	Year 5 (%)	Year 7 (%)
All students[1]	95.6 ± 1.4	93.7 ± 1.0	88.9 ± 1.1
Indigenous students	84.1 ± 5.0	74.2 ± 3.9	57.6 ± 3.9
Metropolitan students	96.4 ± 1.2	94.9 ± 0.9	91.0 ± 1.0
Provincial students	95.1 ± 1.9	92.4 ± 1.3	87.0 ± 1.6
Remote students[2]	92.0 ± 3.2	90.1 ± 2.3	81.4 ± 2.6
Very Remote students[3]	85.7 ± 4.9	76.8 ± 4.7	59.4 ± 4.7

Notes: 1. All Year 3, 5 and 7 students in Western Australia tested in both government and non-government schools in 2004, plus students who are exempt from testing (education support students) who are classified as not meeting the benchmarks.

2. Includes schools in the town of Broome.

3. Includes all other schools in the West Kimberley.

Source: Western Australia Department of Education and Training.

Unfortunately, the Western Australia Department of Education advises that the relatively small numbers of Indigenous students who sit for these tests in West Kimberley schools prevents the construction of reliable estimates of Indigenous student achievement specifically for that region. As a consequence, it is not possible to establish precisely the number of Indigenous students within the West Kimberley who are likely to progress with, or without, difficulty towards an outcome that would satisfy the requirements for a successful engagement with the mainstream labour market (at least as determined by benchmark achievements). However, for the first time, the 2004 National Report on Schooling reports estimates of the proportion of students achieving benchmark scores at the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) geolocation level and the data for reading achievement for Western Australia are shown in Table 49. In this classification, all schools in the West Kimberley fall within the 'very remote' category, except for those in the town of Broome that fall under the 'remote' category.

Ultimately, the true levels for Indigenous students in the West Kimberley remain unknown as matter of public record, but we can assume that they do not exceed those implied in Table 49. Thus, for Indigenous students in schools outside of Broome between 80.8 per cent and 90.6 per cent achieve Year 3 national reading benchmarks. By Year 5 this range falls to between 72.1 per cent and 81.5 per cent, and by Year 7, somewhere between just over one-half and two-thirds of all students (54.7 and 64.1%) achieve national benchmarks. If the 'remote' rates apply to Broome, then achievements there would be higher, but still ranging between 78.8 per cent and 84 per cent by Year 7.

Table 50. Highest year of schooling completed: Indigenous male and female adults, Broome SLA, 2001

	Male	Female	Total	Male	Female	Total
		Number			Per cent	
Year 8 or below	186	160	346	16.3	13.5	14.9
Year 9	161	116	277	14.1	9.8	11.9
Year 10	382	383	765	33.5	32.2	32.9
Year 11	146	244	390	12.9	20.5	16.8
Year 12	223	236	459	19.6	19.9	19.8
No school	41	49	90	3.6	4.1	3.9
Total	1,139	1,188	2,327	100.0	100.0	100.0

Note: Refers to population >15 years of age and excludes highest level of schooling not stated.
Source: ABS 2002.

Table 51. Highest year of schooling completed: Indigenous male and female adults, Derby-West Kimberley SLA, 2001

	Male	Female	Total	Male	Female	Total
		Number			Per cent	
Year 8 or below	225	179	404	17.4	13.3	15.3
Year 9	199	175	374	15.4	13.0	14.2
Year 10	407	451	858	31.5	33.4	32.5
Year 11	114	155	269	8.8	11.5	10.2
Year 12	169	213	382	13.1	15.8	14.4
No school	178	176	354	13.8	13.0	13.4
Total	1,292	1,349	2,641	100.0	100.0	100.0

Note: Refers to population >15 years of age and excludes highest level of schooling not stated.
Source: ABS 2002.

The impact of relatively low retention rates is reflected in census data on the highest levels of schooling completed as reported by all adults in 2001 (those over 15 years). These levels are shown in Tables 50 and 51 for Indigenous males and females adults in the two SLAs. While these show relatively high proportions of the Indigenous adult population of Derby-West Kimberley having never been to school or completing only to Year 8 or below, from a labour market perspective this may not be significant as they tend to be concentrated in older age groups and reflect the legacy of past exclusionist policies.

Table 52. Indigenous and non-Indigenous VTE enrolments by sex and course level: West Kimberley, 2005[1]

	Indigenous				Non-Indigenous			
Course level	Males		Females		Males		Females	
	No.	%	No.	%	No.	%	No.	%
Diploma	4	0.7	30	5.6	5	1.2	14	2.6
Certificate IV	23	3.8	46	8.6	35	8.5	44	8.3
Certificate III	115	18.9	171	32.0	177	43.0	269	50.9
Certificate II	224	36.8	178	33.3	143	34.7	170	32.1
Certificate I	159	26.1	69	12.9	39	9.5	28	5.3
Enabling/Bridging course	32	5.3	13	2.4	6	1.5	2	0.4
No level classified	52	8.5	28	5.2	7	1.7	2	0.4
Total	609	100.0	535	100.0	412	100.0	529	100.0

Notes: 1. Second quarter, 2005. Excludes Indigenous status not stated. Includes all VTE enrolments collected by the Western Australia Department of Education and Training from publicly funded providers (TAFEs and universities) and from private providers receiving public funds. Enrolment data for private providers undertaking VTE activity on a fee-for-service basis are not collected by the Department of Education and Training.

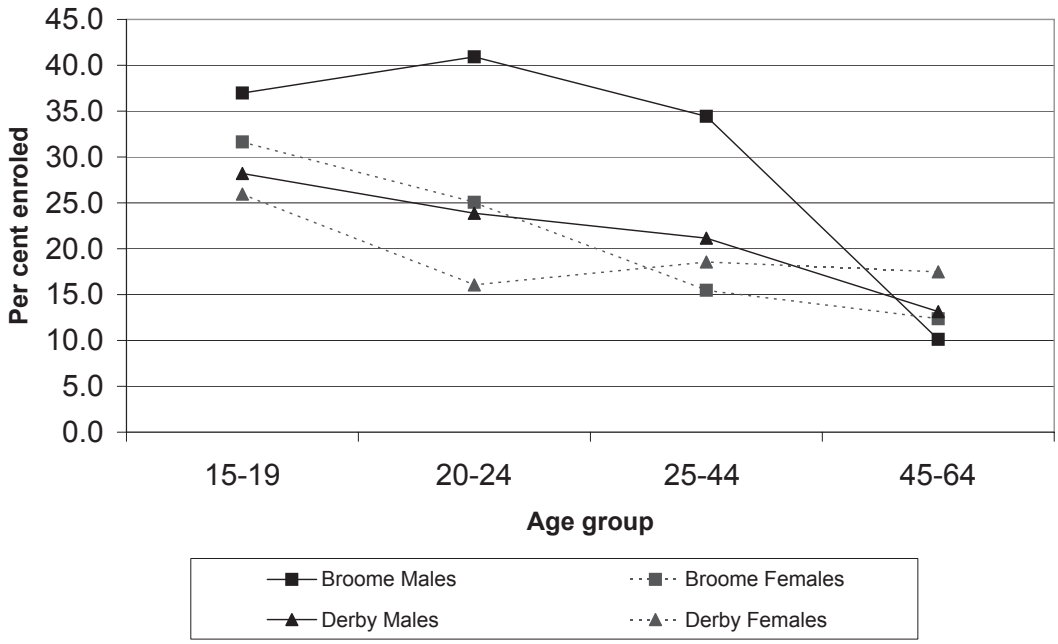
Source: Western Australia Department of Education and Training.

Of more immediate interest is the fact that in 2001 there were approximately 840 Indigenous adults in the West Kimberley with Year 12 attainment, with slightly more of these (55%) in the Broome SLA. The second point is that women in both SLAs have generally higher levels of school attainment than men. The final point is that Year 10 represents the largest single year of school attainment for both men and women in both SLAs, thus pointing to the effects of lack of retention to Year 12. At the same time these data do suggest a sizeable cumulative experience of school completion through to the end of compulsory schooling, but as numerous studies based on census and survey data have shown (ABS/CAEPR 1996; Daly 1995; Gray, Hunter & Schwab 2000; Hunter & Schwab 2003), the relative lack of retention and completion beyond Year 10 is potentially significant in terms of explaining differential rates of Indigenous and non-Indigenous participation in mainstream employment.

VOCATIONAL AND TECHNICAL EDUCATION

School-based and post-secondary education and training leading to the acquisition of formal workplace qualifications is available in the West Kimberley from a variety of public, private and community providers including the Kimberley College of Technical and Further Education (TAFE) (with campuses at Broome, Derby and Fitzroy Crossing), Aboriginal-controlled Registered Training Organisations such as Karrayili Adult

Fig. 34. Indigenous age and sex-specific VTE enrolment rates: Broome and Derby-West Kimberley SLAs, 2005



Note: Enrolment data are for 2005 while age group data are based on 2006 low series Indigenous projection.
Source: NCVER.

Education Centre (which offers education and training certificates in Environmental Health, Business and General Education to residents of Fitzroy Crossing and communities in the Fitzroy Valley area), Djaringo Pty Ltd, Goolarri Media Enterprises Pty Ltd, Kimberley Group Training, and Kimberley Aboriginal Medical Services Council (in Broome), as well as The University of Notre Dame (also in Broome), and the South Metropolitan Youth Link (in Derby, Bidyadanga, and One Arm Point). In addition, the Nirrumbuck Indigenous Employment Centre in Broome caters for people who are registered with the Kullarri Regional CDEP or with Centrelink in providing job search skills such as writing resumes and interview techniques, as well as access to training to gain the skills necessary to find and keep a job. Much of the participation in Vocational and Technical Education (VTE) through these outlets is undertaken via CDEP or STEP projects.

It is difficult to be precise about the regional student population in the VTE sector at any point in time, as colleges outside of the West Kimberley can offer on-line courses, while providers may also offer variable fee-for-service courses that are not included in standard data collection. It is also the case that students from the region travel to other parts of the State (notably Perth) for particular modules and courses. The

Table 53. Indigenous and non-Indigenous VTE enrolments[1] by major field of education: West Kimberley, 2005

Indigenous		Non-Indigenous	
Major field of education	Enrolments	Major field of education	Enrolments
General Education Programmes	*250*	*Office Studies*	*150*
Office Studies	*230*	*Maritime Engineering & Technology*	*120*
Studies in Human Society	130	*Human Welfare Studies & Services*	*90*
Human Welfare Studies & Services	*80*	Information Systems	80
Maritime Engineering & Technology	*70*	*Visual Arts and Crafts*	*70*
Business & Management	*60*	*Business & Management*	*60*
Curriculum and Education Studies	*60*	Other Education	50
Public Health	60	*Curriculum and Education Studies*	*40*
Mechanical and Industrial Engineering and Technology	*50*	*Tourism*	*40*
Building	50	*Mechanical and Industrial Engineering and Technology*	*30*
Agriculture	*50*	Teacher Education	20
Manufacturing Engineering & Technology	40	*General Education Programmes*	*20*
Horticulture and Viticulture	*40*	*Horticulture & Viticulture*	*20*
Automotive Engineering & Technology	40	Building	20
Food and Hospitality	*30*	*Food and Hospitality*	*20*
Tourism	*30*	*Agriculture*	*20*
Communication & Media Studies	30	**Per cent of all enrolments**	**85.0**
Electrical and Electronic Engineering	30		
Fisheries Studies	20		
Visual Arts and Crafts	*20*		
Per cent of all enrolments	**91.3**		

Note: 1. 20 enrolments or more.
2. Ranked fields shared by both Indigenous and non-Indigenous students are in italics.
Source: NCVER.

data presented here refer to publicly funded providers (TAFE and universities) as well as private providers that receive public funds for the provision of VTE in the West Kimberley. As noted, enrolment data for private providers undertaking VTE activity on a fee-for-service basis are not collected by the Department of Education and Training and so do not form part of this profile.

According to data from the National Centre for Vocational Education Research (NCVER), a total of 2,900 students were enrolled in VTE courses in the West Kimberley during 2005. Of these, just over one-half (52%) indicated Indigenous status on their enrolment forms, around one-third (34%) indicated non-Indigenous status, and 14 per cent provided no response to the Indigenous status question. Table 52 shows the number and proportion of Indigenous and non-Indigenous enrolments as at the second quarter of 2005 by sex and course level. Clearly, Indigenous males are more represented than Indigenous females in the VTE sector, with Indigenous males accounting for 60 per cent of all male enrolments, and Indigenous females accounting for 50 per cent of all female enrolments.

Indigenous males and females are more likely than their non-Indigenous counterparts to be enrolled in short miscellaneous enabling/bridging courses with no formal certification attached, or in courses with no level classified (14% and 8% compared to 3% and 1% respectively). Also evident is the fact that Indigenous enrolments are concentrated in Certificate level I and II courses (especially males), while non-Indigenous enrolments are far more likely to be in Certificate III courses. Interestingly, Indigenous females are the most prominent of any group in Certificate IV and Diploma level courses.

As for the age distribution of Indigenous enrolments, participation rates are highest in the 15–19 year age group and decline steadily thereafter for both males and females in both SLAs (Fig. 34). However, the situation among males in the Broome SLA is somewhat different since the peak rate of participation is among those aged 20–24 years, and the rate remains relatively high at 35 per cent into the older age group 25–44 years. Another less prominent counter-trend is evident among females in the Derby-West Kimberley SLA, whose participation in VTE seems to increase at older ages.

A wide range of VTE courses are available by field of education. The more substantial Indigenous enrolments (of 20 persons or more, and accounting for 91% of all enrolments) are spread across 20 different subjects as shown in Table 53 for the whole of the West Kimberley, with courses ranked by enrolment numbers. While office studies are well subscribed for both Indigenous and non-Indigenous students, general education programs are the most prominent courses for Indigenous students, while marine engineering and technology is prominent non-Indigenous students. Apart from this difference, comparison of the course listings reveals a similar range and level of course activity for both Indigenous and non-Indigenous students.

Of particular interest, though, in terms of Indigenous participation in the labour market, are enrolments in VTE industry training packages. In 2005, a total of 80 Indigenous students were enrolled in both the Broome and Derby-West Kimberley SLAs in a range of training packages associated with the following industries: automotive, civil construction, general construction, business services, community services, media training, information technology, telecommunications, furnishing industry, metal and engineering, mining, meat industry, conservation, rural production, horticulture, seafood industry, transport, hospitality, tourism, electrotechnology, hairdressing, and retail.

Table 54. Indigenous and non-Indigenous VTE module outcomes in the West Kimberley, 2005

	Indigenous		Non-Indigenous	
	No.	Per cent	No.	Per cent
Competency Achieved/Pass	3,638	55.5	3,457	79.3
Recognition of Prior Learning	24	0.4	29	0.7
Non-Assessable Enrolment - Satisfactorily Completed	351	5.4	40	0.9
Competency Not Achieved/Fail	1,057	16.1	501	11.5
Withdrawn	1,489	22.7	332	7.6
Total	6,559	100.0	4,359	100.0

Note: Categories 1–3 represent successful outcomes. Excludes those enrolled in modules who are continuing studies into the next collection period and Indigenous status not stated.

Source: Western Australia Department of Education and Training.

OUTCOMES

To measure performance in the VTE sector, the Western Australia Department of Education and Training has identified a number of key performance measures relating to efficiency, effectiveness and quality. In relation to the effectiveness of the training system, the key indicator is the rate of successful completion of modules—the components from which courses are constructed. Table 54 compares the rates of successful module completion for Indigenous and non-Indigenous males and females enrolled in West Kimberley training courses in 2005. Clearly, outcomes for Indigenous students are the least favourable, with almost 39 per cent failing or withdrawing compared to 19 per cent of non-Indigenous students. Nonetheless, in terms of regional labour demand and supply, these data indicate that a substantial proportion of modules undertaken by Indigenous people in the West Kimberley (61%) are successfully negotiated.

The module load completion rate (MLCR) provides another measure of performance, and with this indicator it is possible to compare the West Kimberley with data for all of Western Australia (Table 55). The MLCR represents the sum of student curriculum hours for successfully completed modules expressed as a proportion of the total student curriculum hours across all module enrolments. In 2005, this rate was 59 per cent for Indigenous module enrolments—less than two-thirds of the level reported for non-Indigenous students in the region, which in turn was slightly higher than the overall Western Australia average.

Table 55. Indigenous and non-Indigenous average module load completion percentage rates: West Kimberley and Western Australia, 2005

West Kimberley Indigenous	West Kimberley Non-Indigenous	Western Australia total population
58.9	76.4	72.7[1]

Note: 1. 2001 figure.
Source: Western Australia Department of Education and Training.

Table 56. Indigenous male and female VTE course completions by qualification level: Broome SLA 2002–2005

	2002		2003		2004		2005	
Qualification level	Male	Female	Male	Female	Male	Female	Male	Female
Advanced diploma	0	0	0	0	0	0	0	0
Diploma	0	(a)	(a)	0	0	(a)	0	(a)
Certificate IV	(a)	(a)	(a)	8	6	(a)	(a)	7
Certificate III	(a)	10	9	8	(a)	6	(a)	(a)
Certificate II	9	11	15	5	7	8	15	20
Certificate I	(a)	(a)	15	(a)	(a)	5	11	(a)

Note: For confidentiality reasons figures between 1 and 4 have been replaced by (a).
Source: NCVER National 2002–2005 VET provider collections.

Table 57. Indigenous male and female VTE course completions by qualification level: Derby-West Kimberley SLA 2002–2005

	2002		2003		2004		2005	
Qualification level	Male	Female	Male	Female	Male	Female	Male	Female
Advanced diploma	0	0	0	0	0	0	0	0
Diploma	0	(a)	0	0	0	(a)	(a)	(a)
Certificate IV	(a)	(a)	(a)	(a)	(a)	(a)	(a)	5
Certificate III	(a)	(a)	10	8	0	6	(a)	6
Certificate II	5	(a)	(a)	(a)	8	0	18	5
Certificate I	(a)	(a)	0	(a)	7	(a)	15	0

Note: For confidentiality reasons figures between 1 and 4 have been replaced by (a).
Source: NCVER National 2002–2005 VET provider collections.

Table 58. Percentage distribution of Indigenous and non-Indigenous adults in the Broome SLA with non-school qualifications, 2001

	Indigenous			Non-Indigenous		
	Males	Females	Total	Males	Females	Total
Postgraduate Degree	0.0	0.3	0.1	1.6	1.5	1.6
Graduate Diploma and Graduate Certificate	0.3	0.5	0.4	1.3	2.9	2.1
Bachelor Degree	0.9	3.7	2.4	9.7	14.8	12.1
Advanced Diploma and Diploma	1.5	2.8	2.2	7.3	9.9	8.5
Certificate	11.9	5.7	8.6	34.8	12.1	24.0
No qualification	85.4	87.0	86.3	45.3	58.8	51.7
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes non-school qualification not stated.
Source: ABS 2002.

Table 59. Percentage distribution of Indigenous and non-Indigenous adults in the Derby-West Kimberley SLA with non-school qualifications, 2001

	Indigenous			Non-Indigenous		
	Males	Females	Total	Males	Females	Total
Postgraduate Degree	0.0	0.2	0.1	1.7	2.3	2.0
Graduate Diploma and Graduate Certificate	0.0	0.4	0.2	2.2	3.8	2.9
Bachelor Degree	0.5	1.7	1.1	10.8	17.8	13.8
Advanced Diploma and Diploma	0.5	1.2	0.9	7.7	10.0	8.7
Certificate	5.5	1.4	3.4	33.7	9.8	23.6
No qualification	93.5	95.1	94.3	43.9	56.3	49.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes non-school qualification not stated.
Source: ABS 2002.

Table 60. Non-school qualification by field of study: Percentage distribution of Indigenous and non-Indigenous males and females in the Broome SLA, 2001

	Indigenous			Non-Indigenous		
	Males	Females	Total	Males	Females	Total
Natural and Physical Sciences	1.7	0.0	0.8	3.4	2.3	2.9
Information Technology	0.0	0.0	0.0	0.8	0.8	0.8
Engineering and Related Technologies	35.8	1.5	18.0	42.2	2.8	25.3
Architecture and Building	20.1	0.0	9.7	14.9	1.3	9.1
Agriculture, Environmental and Related Studies	7.8	2.1	4.8	5.3	2.6	4.1
Health	3.9	20.6	12.6	3.2	20.1	10.4
Education	3.9	21.1	12.9	6.6	21.8	13.1
Management and Commerce	5.6	27.3	16.9	9.5	20.5	14.2
Society and Culture	10.1	12.9	11.5	6.1	12.1	8.7
Creative Arts	4.5	4.6	4.6	2.1	4.6	3.2
Food, Hospitality and Personal Services	5.0	9.9	7.4	4.7	9.9	7.0
Mixed Field Programmes	0.0	0.0	0.0	0.0	0.0	0.0
Field of Study inadequately described	1.6	0.0	0.8	1.2	1.2	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes non-school qualification not stated.
Source: ABS 2002.

The more telling statistics, however, relate to actual course completions each year, as these potentially lead to an increase in the stock of qualified Indigenous adults in the region. According to NCVER statistics, a total of 40 Indigenous students successfully completed VTE courses in each of the Broome and Derby-West Kimberley SLAs in 2005. Tables 56 and 57 provide a breakdown of these completions by qualification level (as far as confidentiality provisions allow), and historic data to 2002 are also provided in an attempt to detect any trend. Not surprisingly, most completions are at Certificate III level or below, especially in Derby-West Kimberley, although there are some Certificate IV and Diploma level completions. While no particular trend appears evident over time, it is likely that the small numbers and short time frame involved compromises any discussion of trends. The same is true of comparison between the prevalence of male compared to female completions. Nationally, the number of course completions in any given year as a proportion of

Table 61. Non-school qualification by field of study: Percentage distribution of Indigenous and non-Indigenous males and females in the Derby-West Kimberley SLA, 2001

	Indigenous			Non-Indigenous		
	Males	Females	Total	Males	Females	Total
Natural and Physical Sciences	0.0	3.1	1.5	4.0	2.0	3.2
Information Technology	0.0	3.1	1.5	0.9	0.9	0.9
Engineering and Related Technologies	41.1	0.0	21.6	45.0	3.0	28.9
Architecture and Building	15.9	0.0	8.3	12.3	0.6	7.8
Agriculture, Environmental and Related Studies	13.1	0.0	6.8	5.1	2.5	4.1
Health	7.5	20.8	13.8	3.9	32.3	14.8
Education	0.0	18.8	8.9	6.9	22.8	13.0
Management and Commerce	2.8	31.3	16.3	7.5	12.7	9.5
Society and Culture	10.3	19.8	14.8	6.3	11.8	8.4
Creative Arts	2.8	0.0	1.5	1.5	3.7	2.3
Food, Hospitality and Personal Services	3.7	0.0	2.0	5.7	6.4	6.1
Mixed Field Programmes	2.8	0.0	1.5	0.0	0.0	0.0
Field of Study inadequately described	0.0	3.1	1.5	0.9	1.3	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Excludes non-school qualification not stated.
Source: ABS 2002.

total enrolments is around 16 per cent, reflecting a composite of student and course characteristics. In the West Kimberley, for Indigenous students, the data provided here indicate a proportion of around 5 per cent, though probably slightly higher given rounding in the data.

QUALIFICATIONS

A key human capital requirement in the regional labour market, and a primary product of the education and training system, is the acquisition by individuals of formal qualifications. While program data can reveal numbers passing through courses, it remains the case that the five-yearly census provides the most comprehensive source of data on the sum total of individuals within the region who are likely to hold non-school qualifications.

At the 2001 Census, a total of 7,286 adults counted in the West Kimberley reported having some form of post-school qualification, with Indigenous adults accounting for just 576 (8%) of these. With 38 per cent of all adults holding a non-school qualification, the population of the West Kimberley is similar to the Western Australian average (39%), although this is clearly does not apply to the Indigenous population. Tables 58 and 59 show the distribution of Indigenous and non-Indigenous non-school qualifications by qualification level in the two SLAs. As much as 86 per cent of Indigenous adults in the Broome SLA and 94 per cent in Derby-West Kimberley SLA indicated at the 2001 Census that they did not hold a non-school qualification. This compares to 52 per cent and 49 per cent of non-Indigenous adults respectively. While little variation is evident in these rates between males and females, both Indigenous and non-Indigenous females tend to have higher levels of qualification than their male counterparts. However, of those individuals who have qualifications, Indigenous people overall are far less likely to have diplomas and degrees and far more likely to hold certificate level qualifications.

If we assume that these 2001 rates remain constant, we can use the projected estimate of the 2006 adult population to produce an estimate of the current numbers in the region who would hold a qualification. This yields an estimate of 460 who presently hold a qualification in the Broome SLA, with 292 of these at certificate level, 74 at diploma level, and 94 at graduate level. The equivalent figures in Derby-West Kimberley would be 191 with qualifications, including 114 at certificate level, 30 with diploma level, and 43 at graduate level. It should be noted that these would be minimum estimates as they are based on rates calculated net of individuals who did not indicate their qualification status.

Differences between Indigenous and non-Indigenous adults are also evident in the field of qualification reported, but here the main difference is gender-based (Tables 60 and 61). Although high non-response to the census question on field of qualification undermines the quality of the data, it appears that most qualifications held by Indigenous males are in engineering and building, similar to their non-Indigenous counterparts. Among both Indigenous and non-Indigenous females, on the other hand, qualifications in health, education and management predominate. These differences in field of qualification are broadly in line with occupational variations already highlighted between males and females, regardless of Indigenous status.

CONCLUSION

The purpose of this analysis has been to portray the social and economic status of the populations resident within the Broome and Derby-West Kimberley Shires at a point in time prior to potential expansion of resource development activities within the region and associated flow-on effects of increased labour demand. To this extent, the baseline provided sits at a crossroads with options for future social and economic outcomes still the subject of negotiation between Aboriginal people, corporate interests and the State government. The value of such a profile is two-fold. First, it assists by providing a quantum to discussions of need, aspirations, and regional development capacities. Second, it provides a benchmark against which the impact of any developmental decisions and future actions associated with them may be measured. Thus, the content of this report does not constitute social impact assessment; rather it lays a foundation for identifying key requirements of regional development planning—it is forward rather than backward looking. With this in mind, the implications of the findings for each of these areas are summarised below.

DEMOGRAPHY

It goes without saying that Indigenous people have by far the longest and most enduring presence in the West Kimberley. It is equally true, that aside from the initial upheavals and demographic impacts of sustained contact with Europeans that commenced in the late nineteenth century, the period since the 1970s has seen major shifts in the demographic make-up of the region, and further change is likely in the years ahead. On current indications, the Indigenous population will continue to increase its share of the regional total, though only slightly, while official projections point to a doubling of the regional Indigenous population by 2029. Numerically, the focus of this growth will be at younger ages; proportionally, it will occur mostly at older ages. In combination, these expanding cohorts present major challenges for social and economic policy. The basic implication is a need for accelerated provision of social services and infrastructure as well as enhanced economic participation just to maintain the status quo in socioeconomic status.

While Indigenous population growth seems assured, a new dynamic has emerged that may begin to undermine the capacity to retain, or at least expand, Indigenous settlement on Indigenous lands. This stems from the new administrative arrangements in Indigenous affairs and, in particular, from the transformation of the CDEP scheme as a facilitator of community development to being an employment services program designed to move people off the scheme and into the mainstream labour market. What is uncertain in this process is whether many of the CDEP activities that currently sustain communities will continue to be funded. If they are not, and if the intention and desire of Indigenous people is to continue to reside on country across the West Kimberley (as it clearly is), then it will be increasingly necessary to identify and develop an alternate economic base to enable them to do so.

As for the non-Indigenous population, major questions still surround future (and even current) numbers. The primary variable here is labour demand as dictated by mining and related developments, together with the composition of associated workforces in terms of construction-phase, FIFO, and resident components.

The other substantial consideration surrounds visitor numbers associated with tourism and the impacts that inevitable expansion of these may have in terms of opportunities for enterprise development, on the one hand, and need for greater land and sea management on the other.

JOBS

The growth of non-Indigenous population in the West Kimberley has resulted from employment-led migration, mostly from the south west of Western Australia. While the number of people employed in the West Kimberley has expanded greatly over the past few decades, the rate of mainstream employment among Indigenous adults of the region actually fell from 39 per cent in 1981 to only 19 per cent in 2001. While the numbers of Indigenous people in work have also undoubtedly increased, so has the size of the working-age population. As a proportion then, the Indigenous employment rate hovers around 50 per cent, and this figure is substantially inflated by CDEP.

Accordingly, some of this decline in the mainstream employment rate reflects a substitution effect due to the gradual introduction of the CDEP scheme, with many jobs that might otherwise have been classified as part of the mainstream labour market (especially in the provision of education, health and municipal-type services) being absorbed (or enabled) by the scheme. In effect, the decline in the Indigenous mainstream employment rate only serves to emphasise the rise to dominance of CDEP in the regional Indigenous labour market. Presently, CDEP accounts for fully three-quarters of all Indigenous employment in the West Kimberley and it embraces the population of every location, especially young adults. This is why recent changes to its purpose and administration demand close attention in terms of their possible impact on the level and composition of regional economic participation, as well as the very viability of many communities.

If one of the outcomes of CDEP reform is to more narrowly define the nature of eligible activity so as to exclude support for positions in schools, clinics, administration and the delivery of municipal services, then urgent decisions need to be made about who is to support the continuation of such work in communities, if indeed that is the intention of governments. Similar issues arise with regard to more cultural work and there is a need to establish the number and nature of employment positions generated by 'caring for country' projects and the potential for future likely outcomes. From an Indigenous community perspective, CDEP jobs have for a long time provided the scope for 'active' rather than 'passive' welfare via flexible arrangements for supporting a wide range of economic activities. Under the new arrangements, there is an issue emerging about the appropriate composition of CDEP work and how this is best determined.

A number of crucial questions arise out of all this for Indigenous, government and industry stakeholders. First of all, what is the nature and scale of future labour demand and where is this likely to be located? Second, is the likely local supply of Indigenous labour sufficient to meet any targets for regional labour market participation that might be established? Third, what is the composition of potential labour supply in terms of human capital and related work-readiness? Finally, what interventions are necessary to raise the level of Indigenous economic participation in the face of growing numbers moving into the working-age group? In short, what does the future West Kimberley labour market look like, and where, in terms of

numbers and composition, are Indigenous workers likely to fit? In considering such questions, Altman (2006: 9) has suggested four policy choices: maintain the status quo in poor economic outcomes (the experience to date); encourage people to move and acquire mainstream work (the current policy approach); build an economic base at remote communities (only partially attempted to date and CDEP dependent); or focus on underwriting Indigenous livelihoods and recognising new forms of property (also CDEP-linked and requiring recognition of new forms of property).

As this suggests, not all regional options or aspirations point in the direction of mainstream workforce participation. With growing access to traditional lands, many people are making lifestyle choices and placing their emphasis on continuing ties to country and the customary social and economic activities that might stem from this. Where these pursuits intersect with industry activity (as in the case of heritage work), they may provide a source of meaningful engagement along with intermittent income. However, there is also a need to explore means of commercialising the customary sector in ways that require, rather than hamper, its sustainability. The arts industry and cultural tourism are obvious examples, but land and sea resource management and work in the Indigenous organisation services sector may also provide labour intensive and geographically widespread opportunities. Against the background of an expanding working-age population, any additional work opportunities generated by such activities should be seen as an essential contribution to the overall strategy for achieving higher levels of Indigenous labour force participation that obviously includes enhanced mainstream participation. At the same time, any employment targets that might be set in response to demographic pressures raise reciprocal issues concerning labour supply. The main supply-side factor that is dealt with in this paper concerns education and training.

EDUCATION AND TRAINING

The polarisation of employment outcomes in the West Kimberley between Indigenous and non-Indigenous people has many of its antecedents in relative educational status. While the historic reality is that many older Indigenous adults in the region have never attended school, currently enrolment rates across compulsory school ages appear to be close to parity, if we take into account the fact that many Indigenous students of secondary school age attend schools outside of the West Kimberley. However, many of those enrolled in West Kimberley schools do not attend school on a regular basis, and there is also a lack of progression through the school system to the crucial years of completion at Years 10 and 12. For a complete picture of performance, though, information regarding outcomes for students schooling outside of the region would need to be acquired. A further concern is that precise information on the practical outcomes of low school participation, as measured by literacy and numeracy achievement, are not available for public discourse at the regional level. Of course, the Western Australia Department of Education (along with individual school boards and parents) has access to such data, but from the perspective of assessing regional planning options —where an attempt is being made to establish the overall quantum and composition of needs, as well as the interconnections between human capital variables and economic outcomes—this presents a significant gap in local knowledge.

Despite relatively low school participation, according to available census data, this would imply that in 2006 an estimated 2,216 Indigenous out of 3,360 adults in the Broome Shire would have had some level of schooling through to Year 10 or above (though only 661 would have achieved Year 12). It is important to note, however, that with remote community data, there are likely to be interpretive issues surrounding the practical meaning of 'school completion' to Year 10. The equivalent figures in the Derby-West Kimberley Shire would be 1,908 out of 3,350 (with 485 achieving Year 12). Although the appropriate cross-tabulation has not been established, it seems reasonable to assume that the other estimate of 3,600 Indigenous adults in work in 2006 (including in CDEP) would be largely drawn from this 'educated' group, leaving some 520 individuals with Year 10 or above either unemployed or not in the labour force. It also means, of course, that an additional 2,580 or so individuals would have schooling levels below Year 10 and would therefore (with prevailing school attendance rates and literacy/numeracy achievement) present a sizeable remedial group if they are to prepare for mainstream workforce participation.

Of course, age at leaving school, and even highest year of schooling completed as reported by census enumeration, does not necessarily equate with grade level achievement and actual capabilities. As the indicative WALNA data show, at best barely two-thirds of Indigenous Year 7 students in very remote parts of Western Australia achieve national benchmark levels in reading. If we add to this the fact that only 308 Indigenous students in Year 8 to Year 10 regularly attend school, and that only 58 of these in the Broome Shire and 9 in the Derby-West Kimberley Shire are likely to continue on to Year 12, then this means that the numbers exiting the West Kimberley education system (that is, those attending West Kimberley schools excluding West Kimberley students at schools elsewhere in the State) with competencies at Year 12 level are almost certainly no more than 70 each year. When set against the estimated requirements for over 1,300 more Indigenous adults to be in work by 2021 simply in order to maintain the status quo in employment, this local output of individuals with an educational background sufficient to successfully compete in the mainstream labour market would seem to be grossly inadequate. One likely consequence is that DEWR targets for transfer off the CDEP program into mainstream work are likely to very quickly reach a saturation point.

Somewhat similar calculations can be made in regard to VTE sector output. While it is true that module load completion rates do not provide a direct measure of successful final outcomes in terms of producing qualified individuals, the levels recorded in the West Kimberley are more or less in line with national rates (Commonwealth of Australia 2006: 73). However, at the end of the day in terms of course completions, the VTE system in the West Kimberley currently produces around 80 qualified individuals each year mostly at certificate levels I to III, although to what extent these add to the stock of qualified personnel is unknown as many may well be the same people. Also not known is how many of those engaged in training already form part of the regional workforce, either with jobs in the mainstream labour market or through CDEP.

Table 62. Select summary Indigenous indicators of the scale of labour force inclusion and exclusion: West Kimberley, 2006

Indigenous adult population (15+)	6,704
Employed in mainstream jobs	1,304
Employed by CDEP	2,793
Not in the labour force	2,770
In receipt of Newstart Allowance	360
VTE enrolments	1,500
VTE annual course completions	80
Without Year 12	5,560
Without a post-school qualification	6,050
Has a disability	690

INCOME

To the extent that labour force and income status are linked, a fundamental consequence of the relative lack of Indigenous engagement in the regional economy is financial hardship for individuals and households and an over-reliance each fortnight on various forms of income support in order to sustain livelihoods in a high cost-of-living environment. With the region on the possible brink of an economic boom the danger, of course, is that this dislocation between wealth generation and Indigenous benefit will continue to expand—already this is a gap that has noticeably widened over the past 20 years in the Broome Shire.

Despite presently accounting for 38 per cent of the resident adult population, the Indigenous share of total gross personal income in the West Kimberley is only 22 per cent. Of further note is the fact that only 11 per cent of the total income generated by mainstream employment accrues to Indigenous workers. The implications of this are reflected in the relative levels of income derived from non-employment sources, with as much as 30 per cent of total Indigenous income in the West Kimberley attributable to this category compared to only 8 per cent of non-Indigenous income. If CDEP income is also considered to be non-employment income (owing to its notional link to Newstart Allowance), then the level of Indigenous reliance on government transfer payments rises to 61 per cent. Needless to say, this is a highly precarious financial base for an expanding population.

THE ADEQUACY OF FISCAL RESPONSE

The constraints on Indigenous participation in the West Kimberley economy implied by the statistical profile presented above are considerable, and they range across the spectrum of social and economic conditions. To indicate the scale of some of these, Table 62 provides estimates of the numbers currently included and excluded from the regional labour market according to select dimensions (bearing in mind that the

Indigenous adult population in 2006 is estimated at 6,704). In terms of exclusion, these data show that the vast majority of Indigenous adults in the West Kimberley do not have full schooling, or a qualification, that one-third remain outside the labour force, and around 10 per cent have a disability. In terms of inclusion, only 20 per cent are in mainstream work, almost one-half are reliant for employment on CDEP, and almost 20 per cent are in VTE courses that produce around 80 qualified persons each year. Of course, there is a wider human capital context than portrayed by these select data. While this is not explored in the present analysis, the evidence from studies in adjacent regions indicates that the potential for prolonged and productive workforce participation on the part of young people is severely curtailed by premature mortality, high morbidity, inadequate housing, and high levels of interaction with the criminal justice system (Taylor 2004; Taylor and Scambary 2005).

From a policy perspective, the high levels of Indigenous economic exclusion and low levels of inclusion reflected here raise questions about the adequacy of government resourcing to meet the backlog of disadvantage that has so obviously accumulated in the region. In assessing this, it is insufficient to consider amounts expended by governments on Indigenous programs separate from the key questions of whether such amounts are adequate to the scale of the task of overcoming disadvantage, and whether they are equitable on a per capita basis when compared with equivalent spending in the State (and the nation) overall. It is interesting to note that analysis elsewhere in remote Australia that has considered spending in this way for a single Aboriginal community (Wadeye) in the Northern Territory uncovered gross inadequacies and inequities in crucial areas of capacity building such as education, training and infrastructure, with resulting high costs in health, welfare and incarceration (Taylor & Stanley 2005). If similar inadequacies were to hold in the West Kimberley (and at this stage this is not known), then the level of government intervention aimed at overcoming the economic disadvantage of the region's growing Indigenous population would be not only be found wanting, but, to quote the former Aboriginal Minister for Local Government in the Northern Territory, it would simply be 'funding into a deficit' (Ah Kit 2004). This reflects the regressive nature of the link between demography and economy in contemporary Indigenous Australia and it means that governments (and industry for that matter) can either invest now to build capabilities, or pay heavily in the future to manage the social and economic consequences.

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