



Information Paper

Regional Policy and Research in Australia – the Statistical Dimension

Information Development Plan for Rural and Regional Statistics

2005

New
Issue

Information Paper

**Regional Policy and
Research in Australia –
the Statistical Dimension**

**Information Development
Plan for Rural and
Regional Statistics**

2005

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Australian Statistician**

AUSTRALIAN BUREAU OF STATISTICS

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PREFACE

Regional Policy and Research in Australia - the Statistical Dimension: An Information Development Plan for Rural and Regional Statistics is the culmination of two years' work by the Australian Bureau of Statistics (ABS) to scope the broad themes of regional policy and science and bring these together into a definitional and information framework. This work, delineating this highly complex and evolving field, is at the forefront of such research internationally.

The Plan has evolved from identifying user community information needs for the purposes of regional research and policy analysis. From it, a set of recommendations on areas requiring additional statistical information has been compiled. These recommendations cover economic and social issues. They have been endorsed by the Advisory Group to the ABS' Rural and Regional Statistics National Centre (RRSNC) and will guide the future work of the ABS Regional Statistics Program. The Plan clearly establishes the areas where ABS and other major suppliers of information on regional issues can, in collaboration, make inroads into improved availability of regional statistics.

While it is anticipated that the development of statistics to inform some regional issues identified in this Plan will have long lead-times, overall it is hoped that the availability of small area data and information on regional Australia generally will improve considerably as a result of this Information Development Plan.

Dennis Trewin
Australian Statistician

INTRODUCTION

INTRODUCTION

Rural and regional issues have been at the forefront of Australian public policy for just under a decade. They have come to prominence through the convergence of a number of factors (such as global trade restructuring and rapid technological advances) which have posed both opportunities and challenges for regional economies and communities. The impacts on regional communities have been spatially diverse: some communities have experienced the loss of population from regional centres and towns, and withdrawal of services from smaller population centres.

Information on the changing states in rural and regional Australia is not comprehensive. Regional impacts and outcomes cannot be understood without access to better information and empirical evidence. In particular, there is a need for data to help explain and understand the economic, social and environmental changes occurring across Australia's regions.

The ABS Rural and Regional Statistics National Centre has been established to improve the availability of regional and small area data by identifying priorities in regional policy and research, leading the development of new regional statistics and coordinating their dissemination. In undertaking this role, it is important for the ABS, firstly, to clarify the real demand for regional statistics. In particular, the ABS needs to understand and assess the demand in the context of emerging policy and research questions in this field and the sources of regional and small area data already available.

This Information Development Plan (IDP) represents an agreed plan for further data development in the field of rural and regional statistics, to be implemented by the ABS in collaboration with other major stakeholders.

DEVELOPING THE RURAL AND REGIONAL STATISTICS IDP

The development of the Rural and Regional Statistics IDP has followed a process common to IDP development in the ABS: define the field of statistics; understand the policy and research context; define the desired information set; assess existing data; assess gaps or deficiencies in existing data and determine priorities; obtain agreement on a plan for developing information for the field of statistics.

The research and policy context were informed through a literature search and engagement with key users and stakeholders (including the Rural and Regional Statistics Advisory Group). From this, an Information Model was prepared to present the ABS' understanding of the key policy and research issues. The issues were categorised as geographical, social, economic and environmental to assist consultation with a broad range of users of rural and regional statistics. A full list of contributors to this IDP is given in the Appendix.

The Information Model also assisted in managing the complexity of this field of statistics. Rural and regional issues are relevant to many other subject matter fields (e.g. health, employment, transport etc.). In order to address rural and regional statistical priorities, both the data needs and the most appropriate geographical classification framework

DEVELOPING THE RURAL
AND REGIONAL
STATISTICS IDP *continued*

must be identified. Hence this IDP also includes discussion about geographical frameworks and the way in which spatial boundaries are applied to define and describe regions for a variety of purposes.

THE STRUCTURE OF THE
RURAL AND REGIONAL
STATISTICS IDP

This IDP is broadly structured so that the chapters follow the sequential stages of arriving at an agreed set of information development priorities, as described in the above section. The IDP begins, in Chapter 1, with a discussion of the complexities of Australian geography and definitions of 'rural' and 'regional'. Chapter 2 presents an overview of the rural and regional policy context and discusses the statistical implications for measuring policy outcomes in regions. Chapter 3 identifies the key groups of users of rural and regional data.

Chapter 4 introduces a framework (based on the Information Model used in the consultation process) within which the specific types of data required to fully inform this field of statistics are identified and discussed. Data needs identified through user consultations and other research are categorised broadly under geographical, social, economic and environmental issues. These categories are interdependent, and a combination of all data types may be required to inform specific issues.

Chapter 5 provides an inventory of current sources of small area data. Chapter 6 deals with data issues associated with regional statistics, with a particular focus on administrative data quality and its fitness for purpose.

Chapter 7 presents a set of agreed recommendations for regional statistics development to be undertaken by the ABS, together with those data needs that are proposed for further development in collaboration with other agencies. As it is beyond the capacity of the ABS to provide all the data required in this multi-disciplinary field, across-agency agreements will be sought with other major data producers to collaboratively develop and make available new data sources which will inform regional analysis. In addition, those data sources with the greatest potential to inform regional issues derive from the administrative data collection of Australian Government and state/territory agencies. In most cases this will involve the sharing of resources and data, or the collaborative development of measurement and output standards.

OTHER INFORMATION
DEVELOPMENT PLANS

This IDP is one of a number being compiled in the ABS by areas responsible for specific subject statistical output. Consultations have taken place with the producers of these IDPs during their drafting, and further consultations will continue throughout the statistical development phase to ensure that small area data needs are considered in their work.

INTRODUCTION

Debate over how best to define 'rural' and 'regional' has been occurring for some time and there are no universally accepted definitions of the terms. There are varying concepts of 'rural' and 'regional', some common, some more specialised. For example, 'rural' is commonly used to describe communities that derive their income from agricultural production or industries that support agriculture. By contrast 'Regional Australia' is understood by some to refer to those areas of the country beyond the capital cities and their surrounding metropolitan areas. 'Rural and regional Australia' has become a common phrase used to refer to issues of relevance to the population that lives in country Australia, whether immediately outside the borders of suburbia or in the remote outback with no differentiation between the two. On the occasions when 'rural' and 'regional' are labels applied to specific areas, geographic location is rarely used as the sole determinant in defining such areas. Social, economic, cultural, political and demographic characteristics may all be used, and singly, or together, may be of greater relevance to this sense of 'rurality' or 'regionality' than location.

1.1 WHAT IS MEANT BY 'RURAL'?

Both internationally and within Australia, researchers have tended to focus on the development of detailed criteria to define 'urban' areas, with 'rural' areas commonly classified by default as areas that are 'not urban'. Various measures are applied to define urban areas (and by default rural areas) including:

- population size
- population density
- predominant economic activity
- service levels
- administrative status.

While there are some widely accepted methods for determining 'urbaness', or conversely 'ruralness', there is considerable variation in the practical application of these definitions and concepts. For example, in Canada rural populations are officially classified as those living outside of centres of 1,000 or more people, while in Norway rural areas are defined as those outside of centres of 200 or more people. While reliance on agriculture is in some cases used as a basis for defining rural areas, rural areas are generally considered to also include sparsely settled, non-urban communities that derive their income from other sources.

An issue associated with the use of prescriptive criteria for defining urban and rural areas is that while the extremes of 'urbaness' and 'ruralness' are relatively straightforward to identify, the transition from urban to rural in the real world is unlikely to be abrupt but rather a graduation (Myrdal and Kristiansen, 2002). In recent times there has been a significant blurring of urban and rural populations, especially around the peripheries of urban agglomerations, which has been exacerbated by an increase in the level of commuting, and population mobility in general.

1.2 WHAT IS MEANT BY
'REGIONAL'?

Boundaries delineating regions are primarily tools used to facilitate spatial analysis, and regions are consequently defined on the basis of that analysis. Thus, while rural areas tend to be designated using one or more of the measures specified in section 1.1, the criteria used to define regions are largely determined by the nature of the question being asked. *The term 'region' may be relevant to both urban and non-urban areas.*

The three most common types of regions are homogeneous, functional, and planning regions. Homogeneous regions are based upon a set of uniform characteristics, determined by the observer, that distinguish an area from surrounding regions. This might include such things as the predominant type of industry, similar demographic profile, or uniform environmental characteristics. Examples of homogeneous regions in Australia are the Pilbara and Wimmera regions, where the local economies are strongly based on mining and cereal growing respectively; the Middle Western region of Sydney, which is a grouping of metropolitan suburbs where a large proportion of the population are from non-English speaking backgrounds; and the Kakadu region in the Northern Territory (NT), an environmental region defined on the basis of climate, geology, flora and fauna.

Functional regions are defined on the basis of interactions or linkages between areas, often measured by economic flows. A nodal region is a particular type of functional region in which there is a clearly defined central 'node' to which peripheral areas are linked. Examples of functional and nodal regions in Australia are the Perth/Mandurah region in Western Australia (WA) and the Central Macquarie region in New South Wales (NSW) – groupings of areas with strong economic and social links and, in the case of the latter, a recognised central node (Dubbo). The Murray–Darling Drainage Division, a grouping of catchment areas along the River Murray, can also be considered as a functional region in the sense that areas are linked via a complex environmental system. Functional regions may cross state boundaries, as typified by Albury–Wodonga or Gold Coast–Tweed Heads.

Planning regions focus on coherence in terms of decision making and include a range of administrative areas such as Local Government Areas (LGAs), and Health Service Areas.

The strong dependency of regional delineation on the nature of the analysis being undertaken means that in many cases geographical classifications based on administrative boundaries, such as postcodes or LGAs, are unlikely to be suitable as a basis for defining regions. The implications of this on regional statistics are discussed in more detail in Chapter 4.

Policy makers have in recent times increasingly focused on issues affecting 'Regional Australia'. While a precise definition of what constitutes this term is rarely given, it is generally accepted that 'Regional Australia' encompasses urban and rural areas outside of large metropolitan centres. In this sense 'Regional Australia' can be considered to be a specific region defined on the basis of geographical location and shared social, economic and environmental challenges. A distinction can therefore be made between 'regional statistics', or data which relate to specific geographical areas in urban and rural Australia, and 'statistics about Regional Australia', which refers specifically to data about areas outside of Australia's large metropolitan centres.

1.3 THE ABS APPROACH TO 'RURAL' AND 'REGIONAL'

The ABS defines 'rural' using a population based approach through the Section of State structure of the Australian Standard Geographical Classification (ASGC). This urban/rural classification is based on a combination of population size and density measures. People living in close proximity to others in clusters of 1,000 people or more are classified as urban, while those living in areas outside of urban centres of 1,000 or more people are deemed to be rural. As such, no assumptions are made about the characteristics of these people or their communities such as lifestyle or the industry in which people work.

The ASGC also includes a Remoteness Structure based upon the Accessibility/Remoteness Index of Australia (ARIA). This applies a measure of remoteness from goods, services and opportunities for social interaction, to define areas as major cities, regional areas or remote areas. While the Remoteness Structure does not set out to precisely define what is meant by 'regional', the middle groups of the classification do capture a common perception of what constitutes 'Regional Australia' (areas of moderate remoteness outside of major cities).

1.4 'RURAL' AND 'REGIONAL' IN THIS IDP

The Section of State Structure and the Remoteness Structure of the ASGC reflect common perceptions of what constitutes rural and regional Australia, respectively, and will continue to form the basis for ABS statistical output for these areas. However, it is also recognised that, given the absence of a widely accepted, precise definition, alternative methods for classifying such areas may be more appropriate for some data users.

In light of this, a relatively broad interpretation of 'rural' and 'regional' statistics is adopted in this IDP. 'Regional statistics' are outputs produced to describe some aggregated characteristics of a geographically defined sub-region of Australia. This may include some information about the spatial characteristics of particular areas, however spatial information is rarely used as the sole basis for defining a region. As such regional statistics may refer to both metropolitan and non-metropolitan areas. 'Rural statistics' are considered to be data about a specific type of region in non-urban Australia, which may be defined on the basis of a variety of measures described in section 1.1.

However, while a region may be defined in any area, demand for regional statistics in Australia has been driven largely by policy makers, planners and researchers interested in 'Regional Australia'. As discussed in section 1.2, Regional Australia is a specific sub-region of Australia generally considered to include urban and rural areas located outside of capital cities and large metropolitan areas. Consequently the regional statistical needs identified in this IDP are to a large extent reflective of statistical needs related to Regional Australia.

While 'rural' and 'regional' are geographically defined by the ABS via the ASGC, the statistical issues surrounding rural and regional information needs are treated conceptually in this IDP, not geographically. Rural and regional statistical priorities can be grouped into two broad categories; those that focus on the people who reside in rural and regional areas, the lifestyles they lead, and the characteristics of their social institutions and communities, and those that focus on the economic and environmental attributes of rural and regional places. In this sense, a range of social, economic and environmental measures may be applicable to both rural and regional analysis.

1.4 'RURAL' AND
'REGIONAL' IN THIS IDP
continued

Some conceptual distinction can be made between rural and regional policy in the Australian context. Rural policy has tended to focus primarily on the wellbeing of those who live in non-urban areas and on the various forms of deprivation arising from, or related to, residence in such areas. By contrast, regional policy has tended to focus primarily on economic issues, or more specifically on measures to allow regional economies to develop and become and/or remain competitive. It should be noted however that while this distinction is broadly helpful, rural and regional issues tend to be complex, involving an interaction of social, economic and environmental variables. A broader discussion of the key policy issues relevant to rural and regional Australia, and the associated implications for statistical development, is presented in Chapter 2.

2.1 OVERVIEW

In its 2002 policy statement *Strategic Leadership for Australia* (Commonwealth of Australia, 2002) the Australian Government identified rural and regional policy as one of nine key strategy directions to be pursued over the next decade, thereby indicating the economic and social importance of regional Australia to the nation. At the national level rural and regional policy is primarily concerned with strategies and programs targeted to those areas of the country situated outside the major capital cities and metropolitan areas.

While the Australian Government's regional policy contains a number of major initiatives, fundamentally it is grounded in two central tenets – to improve the economic performance of regions so that their potential to contribute to the wealth and competitiveness of Australia as a nation is maximised; and to address actual or perceived regional socio-economic disadvantage so that the wellbeing of non-metropolitan communities is sustained and grows. Ideally, policy strategies aim to develop non-metropolitan regions to be self-reliant, resilient and competitive while ensuring their residents have access to employment opportunities and high quality, affordable goods and services. The regional strategy statements of Australia's individual state and territory governments articulate similar objectives.

The major initiatives of Australian regional policy are consistent with those observed internationally. The Bureau of Transport and Regional Economics' (BTRE) comparative study of Australian regional policy evolution (BTRE, 2003) draws conclusions concerning the key factors necessary for promoting effective regional development through government interventionist policy e.g. longer-term policy implementation time-frames; locally driven approaches in preference to centralist directives; the role of business as a key economic driver in regions; the development of human and social capital; and the need for sustainable development. The regional policies of developed countries generally contain most of these strategies to differing degrees attuned to their specific circumstances. What is peculiar to the Australian experience is the degree of spatial variation in economic, social and environmental development across and indeed, within regions. Such unevenness presents particular challenges for regional policy formulation and implementation. In the Australian context, issues such as remoteness, long travelling distances, erratic seasonal factors, and low population density coupled with high urbanisation are complicating factors with the result that social advantage and disadvantage are likely to be highly spatially concentrated. Addressing regional variation in social and economic outcomes is the crux of Australian regional policy. (The complexity of Australian geography and the implications of this for regional analysis are discussed in Chapter 4).

2.2 FACTORS AFFECTING RURAL AND REGIONAL AUSTRALIA

As at June 2004, seven million people in Australia lived outside the capital cities – 36% of the population. Almost all rural and regional areas have been subject to considerable economic, social and environmental change over the last decade as a result of much higher exposure to market forces and other factors mostly originating outside regions. The most significant of these factors identified by the South Australian Centre for Economic Studies are outlined below*. While the direct impact of these pressures has most likely been economic, concomitant social changes have also resulted.

- *Globalisation* can be defined as ‘the decline in transactions costs of, or barriers to, doing business or otherwise interacting with people of other nations around the world. Its effect is to enhance the integration of markets for goods, financial and other services, technology, ideas, capital and labour, reducing differences in prices for those products and factors across space’ (Anderson, 2000). Globalisation makes regions increasingly prone to external developments which in turn cause more rapid changes in the viability of existing forms of economic activity.
- *Rapid technological change* accentuates differences between rural and densely populated areas because new technology tends to reach rural communities only with a lag. Impediments to the diffusion of new technology stem from factors such as high delivery costs, a lack of appropriately skilled workers in rural and regional areas, and insufficient economies of scale to implement new technologies (e.g. broadband Internet).
- *Centralisation* leads to a withdrawal of some government and private sector services from smaller population centres. Centralisation involves the transfer of service delivery points from, for instance, very small settlements to regional service towns, or from regional service towns to state capitals, or from state capital cities to large capitals such as Sydney and Melbourne. The concerns arising from centralisation are twofold. It may cause reductions in service quality. It may also diminish job opportunities in local economies. Technological change is often a driver of centralisation, an example being the influence of technology driven reductions in transport and communication costs.
- *National competition policy and microeconomic reform* measures implemented by federal and state governments in pursuit of efficient national economic outcomes have removed some concessions which were advantageous to rural and regional areas (e.g. price subsidies and non-commercial service enhancements delivered through government business enterprises, monopoly marketing arrangements, etc.).
- *Agricultural commodity prices* have a large impact on some regions, where such commodities are a significant component of exports.
- *Structural change*, by which is meant the contraction of some forms of economic activity and transfer of resources to other uses, is a product of all of the factors listed above and may result in increased unemployment in rural and regional areas.

2.2 FACTORS AFFECTING RURAL AND REGIONAL AUSTRALIA *continued*

- *Population migration* tends to be towards urban coastal areas and, to a lesser extent, large regional centres. Out-migration of younger working age people can have important ramifications for the community of origin's demographic, economic and social structures, especially for those small economies in rural areas. Because younger age groups are a primary driver of population renewal (through having children), out-migrations of young people tend to perpetuate themselves. The importance of this group in the active labour force, and also its relatively high propensity to spend, means that its loss can have significant impacts on economic structure. As young people are important drivers of the social structure of communities, including family and broader civic relationships, their loss can have major negative consequences for the remaining population.
- *Environmental problems*, accumulated over many years, in some instances undermine agricultural productivity and hence the viability of agriculture dependent communities (e.g. dryland salinity, soil erosion, soil acidification, water quality/availability etc).

* Based on work done by the SA Centre for Economic Studies, University of Adelaide for ABS, 2002.

The impacts of these factors on regional areas have been quite diverse spatially. Not all regions have necessarily been disadvantaged by such changes to their competitive or service environments - indeed many have met the challenge that such changes present.

The acknowledgment of these factors and of the need to develop policy strategies to address them are evident in the overarching goals of the Australian Government's policy statement on regional Australia - *Stronger Regions, a Stronger Australia* - released in 2001 (DoTaRS, 2002). The key aims of the policy are designated as:

- strengthening regional economic and social opportunities
- sustaining our productive natural resources and environment
- delivering better regional services
- adjusting to economic, technological and government-induced change.

A range of state/territory registered policy statements reflect similar themes. The principles underpinning the framework are described below.

2.3 GOVERNMENT/ COMMUNITY PARTNERSHIPS

The key philosophy of the Stronger Regions framework is the concept of collaborative partnerships between government, local business and communities to foster the development of self-reliant regions. The emphasis is on regional communities deciding on and leading their own development and regeneration. According to the Department of Transport and Regional Services (DoTaRS) this approach represents a philosophical shift in the pattern of past government intervention in regional development where the top down policy imposition model was the norm (BTRE, 2003). The partnership approach was a key outcome of the Regional Australia Summit convened by the Australian Government in 1999 where this need was expressed by rural delegates. The notion of collaborative partnerships is now the platform of policy strategy and, post-1999, continues to be evidenced in the annual budget statements on regional funding (*Australia's regions: working in partnership in 2003-04 and Regional partnerships for growth and security in 2004-05*) (Commonwealth of Australia, 2003,

2.3 GOVERNMENT/
COMMUNITY
PARTNERSHIPS
continued

2004) where the need for communities and local business to lead their own development and realise their own futures is strongly reiterated.

State/territory regional strategy statements also emphasise the importance of partnership and collaborative approaches between government, local business and local communities for successful regional development. Both Australian and state/territory regional statements also emphasise the need for a whole-of-government approach to the coordinated delivery of programs and services, and assistance to rural communities.

2.4 COMMUNITY
STRENGTH

While communities leading their own development and managing change is fundamental to *Stronger Regions*, implicit in the partnership approach is that the resources exist in regions to achieve this. A consistent policy theme is to facilitate ‘community strength’, also variously termed ‘community capacity’ or ‘social capital’. This encapsulates the idea that a community’s capacity for local self-management is maximised when local leadership is strong and creative, where strong community networks exist, and when local business is entrepreneurial and able to attract investment. While the assumption is that regions with high community strength perform better economically and socially than those where community strength is less developed, empirical evidence is increasingly being required so that the specific role social capacity plays in regional development, and the effects of social disadvantage on the ability to build social capital can be better understood (National Economics, 1999; Productivity Commission, 2003). The importance of the inclusion of Indigenous people in rural and regional decision making is also stressed in capacity building initiatives. The growing importance of theories of community strength to regional research, and the difficulties associated with measuring them effectively are discussed at length in Chapter 4 (section 4.5.3).

2.5 ECONOMIC
DEVELOPMENT,
INFRASTRUCTURE AND
SERVICE PROVISION

While the three tiers of government separately, or in joint funding arrangements, have similar economic objectives for regional Australia, each has differing responsibilities for their implementation. At the macro level, Australian Government funding is aimed at improving the competitiveness of regions; provides for the majority of transport infrastructure development; and makes substantial commitment to education and health services. While some services are delivered directly through federal initiatives – for example Area Consultative Committees to improve business and employment and Regional Transaction Centres to replace financial services withdrawn from rural communities – others are delivered through the agency of state and local government.

State/territory and local governments carry the major responsibility for regional economic and infrastructure development. Planning for regions is set in the larger context of state development and is tied to the availability of adequate infrastructure to support growth and new investment. The driving of regional economic development has been devolved to regions in the form of business development and in the belief that communities will best drive economic development that is in their own interest. Government stimuli and funding for business development are channelled through regional development boards or commissions and business centres especially established in regions. Their role is to help diversify regional economies through planned initiatives to expand local business, encourage new industries and export opportunities, and promote external investment in regional industries. A specific target of regional business development is the creation of substantial and sustainable local employment

2.5 ECONOMIC DEVELOPMENT, INFRASTRUCTURE AND SERVICE PROVISION

continued

opportunities thereby building and retaining a skilled work force within the region. The types of information identified as being important to support regional development initiatives and infrastructure planning are discussed in Chapter 4 (section 4.6).

Local government also has a considerable role in economic development in regions both in collaboration with regional development authorities and state government, or in their own right. Activities include the design of planning strategies to grow and attract business to council areas and the provision of major infrastructure support and essential community services.

Access to services in country areas remains a high policy priority. Various initiatives have been implemented over the past five years to improve remote access to financial transaction facilities, social welfare payments, telecommunications services and government information generally, and ongoing funding packages continue to be targeted at specifically improving access to services in disadvantaged areas. The issue of access to services generally is discussed in Chapter 4 (section 4.5.2).

2.6 SUSTAINABLE DEVELOPMENT

Sustainable development is a consistent and recurring theme of both Australian and state/territory regional strategies, although the use and interpretation of the concept differs. 'Sustainable development' may simply refer to economic and social initiatives that have viability over prolonged periods, or alternatively encapsulate the more complex interactions between such initiatives and natural resources and the environment. Issues of development and growth in relation to sustainable natural resource management (soil, water and vegetation use) and environmental management (protection of natural heritage and conservation of biodiversity) are now integral to regional policy nationally under the auspices of wider environmental policy. This presents some problems in isolating environmental information pertinent to regional research needs from the wider environmental agenda. The treatment of environmental considerations for the purposes of this IDP are discussed in Chapter 4 (section 4.7).

2.7 ASSESSMENT AND EVALUATION

The inter-dependence of economic and social sustainability with natural resource management planning has been formalised for outcome assessment purposes into the triple-bottom-line (TBL) reporting framework. Governments are increasingly seeking evidence of program coherence and are desirous of having this evaluated through TBL outcomes. These are currently assessed and measured through the application of various indicators, but more data are required to enhance TBL reporting to be able to confidently discern causality in policy and program outcomes. Similarly while the federal and most state/territory governments now require regional impact statements to accompany proposals submitted to their respective cabinets to ensure that the impacts of government decisions on rural communities are taken into account, the projected impacts cannot always be assessed because of lack of both standard data at small area levels or data that can measure complex social constructs. Statistically, this presents enormous challenges to develop indicators that are robust enough to inform regional TBL analysis and evaluation.

2.8 CONCLUSION

Two over-arching themes are evident in Australian regional policy:

- place-based issues of economic growth and development and ultimate competitiveness, and the concomitant natural resource management and environmental impact issues
- socio-economic issues – the quality of life and well being of the people who reside in regional Australia whether in rural communities or remote locations, including concepts of social advantage/disadvantage and social capacity and the importance of their contribution to regional revitalisation and resilience.

The significant number of sub-themes to these issues and implications for statistical development are explored in Chapter 4.

Statistically, there are challenges, then, around generating nationally consistent regional data where the policy interpretation and outcomes may be potentially very different, requiring different levels of measurement applicable to the determinants of regional policy and research.

INTRODUCTION

Users of regional statistics are quite varied and their data requirements are usually quite specific. All require data that are fit for the purpose of their particular interest, which poses problems of being able to statistically satisfy a wide range of interests. Most users also want data applicable to predetermined geographical areas which adds to the complexity of developing regional statistics at suitable small area levels which will meet most users' needs most of the time.

3.1 MAJOR USERS

A wide range of decision making bodies have an interest in obtaining regional statistics. Most prominent among these are legislators and public sector administrators who need statistical information to inform policy decisions. Researchers and academics are large users of regional data whether for academic purposes per se or as analysts acting on behalf of decision makers. There is also a demand from private enterprise, non-profit organisations and the general public.

Key users of rural and regional data, and their respective role(s), are summarised in the following table.

1 KEY USERS OF RURAL AND REGIONAL DATA

Australian Government and state legislators	- super-regional decisions in broad social, economic and environmental fields
Local government decision makers	- delegated responsibility for the development and implementation of policy in smaller regions, and for the planning and management of regional infrastructure
Commonwealth and state grants commissions	- advice on the allocation of government funds between/across regions
Australian Government and state administrative agencies - e.g. health, education, social security, employment, industrial development, environment	- delegated responsibility for the development and implementation across regions of policy and programs in specific functional areas
Quasi-autonomous regional bodies (local representation but dependent on higher governments for funding) - e.g. regional development boards, area consultative committees, catchment management boards	- regional decisions according to local preferences in specific functional areas
Academics, researchers and analysts	- independent commentary and contracted research
Commercial service providers - corporate trading enterprises, government trading enterprises, financial institutions, small businesses	- market based decisions about service provision
Non-profit organisations	- needs based decisions about service provision
Individuals	- information to assist with personal location choices and performance of 'civic' roles

3.1 MAJOR USERS

continued

For legislative and public sector bodies, the interest lies in quantifying where possible the outcomes of policy implementation and for informing further policy development. For such uses data need to be as comprehensive as possible and need to have national coverage for Australian Government purposes. Where policy program implementation is delegated to public sector and quasi-autonomous bodies, decision making on associated support programs commonly involves three key determinants:

- appropriate levels of funding and investment
- choice and level of service delivery
- choice of geographic location to benefit from funding and/or service

Broadly these types of decisions include:

- choices about the establishment of targeted policy initiatives for regions – e.g. agricultural assistance programs, structural adjustment programs, community assistance packages
- choices about the provision of infrastructure for regions – in transport (road, rail and air), communications (telephone, Internet services), water supply and sewerage, electricity and gas and
- choices about the location of service delivery points for regions – in functions as diverse as health services (hospitals, community nursing facilities, etc.), education (schools, tertiary institutions, libraries), transport services (public transport) and administration (Regional Transaction Centres).

3.1 MAJOR USERS

continued

Decision processes typically involve identification of needs, opportunities and logistic constraints and thereby rely heavily on available information to make the most informed choices.

Evidence-based evaluation of existing regional programs has become an increasingly important component of regional decision making. This involves the integration of regional benchmark data (e.g. measures of social and economic wellbeing) with regional program information (e.g. the types of programs operating in a region and total associated expenditure), to assess the effectiveness and efficiency of government intervention. At present there is no standardised framework for measuring government intervention outcomes.

Academics, researchers and analysts use regional statistics to understand the factors at play in 'regionalism' broadly (e.g. 'sea change effects'). They also undertake in-depth analysis of particular regions or comparative analyses of several regions, and comment on regional policy. Their concern is with the economic, social and environmental status of regions with regard to:

- macro and micro effects of government policy on regions
- reasons for economic growth or malaise, and forecasting
- access to, and equity of, services
- effect of 'community strength' on regional growth
- environmental sustainability over time
- theories of regional development.

3.2 USERS' SPATIAL REQUIREMENTS

As noted in Chapter 1, regional boundaries are determined largely on the basis of the specific question(s) being asked. As a consequence of their differing roles and responsibilities, each of the user groups identified above are likely to be interested in different types of regions. For example, Australian Government legislators tend to be predominantly concerned with regional issues at a macro level involving, for instance, the design and delivery of economic development strategies or income support programs. In such cases supporting information may be required for relatively broad regions only (e.g. ABS Remoteness Areas).

By contrast, local government decision makers, academics and other researchers tend to be concerned with identifying local issues and with the comparative analysis of social, economic and environmental factors across, or within, specific towns or regional communities. Associated research and decision making is therefore likely to focus on relatively small spatial units, such as LGAs, Statistical Local Areas (SLAs), census Collection Districts (CDs), or other micro-regions.

The general public is mostly interested in issues affecting their community and local council area. Statistics suited to their needs must be compiled on recognisable boundaries, be readily understandable and not overly complex.

It is important that the differing spatial requirements of individual users be considered in any future statistical development activity. This has particular implications for determining the way in which regional data are geographically classified. Chapter 4 discusses geographical and classification issues in more detail.

CHAPTER 4

RURAL AND REGIONAL DATA NEEDS

4.1 INTRODUCTION

There is a large range of information needs relevant to rural and regional analysis. This chapter introduces a framework within which to discuss these information needs, and discusses the needs that have been identified through user consultations and other research. The framework used in this chapter is carried through in later chapters that summarise available data (Chapter 5) and present recommendations for data development (Chapter 7).

4.2 FRAMEWORK

The framework for this discussion divides rural and regional research and policy themes into social, economic and environmental issues. Social issues tend to relate to people in rural and regional communities while economic and environmental issues are more concerned with place (e.g. regional development and natural resource management).

Social issues

- Rural and regional demography
- Rural and regional quality of life
 - services
 - wellbeing
 - specific population groups
- Rural and regional community strength
 - human capital
 - social capital
 - information networks

Economic issues

- Rural and regional economic growth
 - structure
 - performance
 - links
 - barriers

Environmental issues

- Rural and regional environmental issues
 - natural resources
 - environmental impact and management.

This chapter discusses each research/policy theme and the broad implications for data demand. These categories are interdependent, and a combination of all data types may be required to inform specific issues.

4.3 USER CONSULTATIONS

Consultations for this IDP were held in each state and territory. The primary purpose of these discussions was to gather information from current users of rural and regional data about their specific information needs and, in particular, to identify areas where regional research is currently being constrained by lack of suitable data. Persons consulted included policy developers, service providers and researchers from Australian,

4.3 USER CONSULTATIONS

continued

state/territory and local government agencies, as well as academics with a specific interest in rural and regional issues. The feedback received supplemented advice provided by the Rural and Regional Statistics Advisory Group. A full list of individuals, organisations and agencies who provided input to this IDP are presented in the Appendix.

A wide range of issues were raised at the consultations. Discussion focused on broad research fields (e.g. social capital), specific statistical measures (e.g. regional price indices), improvements to existing data sources, and classification and dissemination issues (e.g. town-level data). While there were some differences in the nature of topics raised in each state and territory, there was also a considerable degree of consensus among users regarding the most significant information needs.

4.4 GEOGRAPHICAL ISSUES

Overlaying the specific social, economic and environmental issues of relevance to rural and regional Australia is the issue of geography. As discussed in Chapter 3, some regional issues may be informed through analysis across broad groupings of regions (e.g. all 'rural' regions in a state), and others may be concerned with issues at sub-regional level. The geographical classifications used to categorise rural and regional data are therefore a major consideration and are discussed before considering issues under the social/economic/environmental framework.

Geographical issues are of fundamental importance to rural and regional analysis. Chapter 1 described the various ways in which the spatial boundaries of rural areas and regions may be defined. To facilitate the delineation of regions appropriate to the specific issues(s) being considered, to promote cross-regional analysis, and to allow the development of consolidated measures of regional 'wellbeing' incorporating data drawn from a range of sources, consistent and flexible geographical classifications are required.

As discussed in Chapter 3, an important issue to be considered when assessing demand for rural and regional data is the spatial level most appropriate to the analysis. Where small area data are required, the methodological, cost and quality issues associated with the production of local-level data are likely to be a key concern. A broader discussion of these 'technical' issues is presented in Chapter 6. The remainder of this section focuses on user requirements in regard to the geographical classification of rural and regional data.

RESEARCH POLICY ISSUE

The use of geographical frameworks that promote the comparison of social, economic and environmental outcomes across regions, while allowing users to define the regional boundaries best suited to their needs.

Many of the issues currently of relevance to rural and regional Australia cannot be encapsulated by a single variable and may be best understood by combining a range of data, often from a variety of sources. Historically, a lack of consistency in the geographical classifications employed by data collectors has been a major barrier to this type of analysis. This has also affected the ability of rural and regional researchers to compare different regions, as data may be collected on a different basis in different parts of the country depending on the collection agency. For example the National Public Health IDP (Australian Institute of Health and Welfare (AIHW) and National Public

4.4 GEOGRAPHICAL ISSUES *continued*

Health Information Working Group, 1999) notes that examination of geographical variations in health status is often hampered by a lack of consistency in the geographical boundaries and identifiers used by different agencies to define and denote location. While the use of geographical concordances can to some extent address variation in geographical classifications across collections, there remains a need for the more widespread and consistent adoption of standard geographical frameworks.

Rural and regional researchers and policy makers have tended to request data at the postcode or Local Government Area level. However, as noted in Chapter 1, various criteria may be applied to define a region dependent on the nature of the analysis being undertaken and the needs of the individual user, and in many cases geographical boundaries based on administrative areas may be largely unsuitable. As a result, users of rural and regional data require statistical information based on flexible geographical frameworks which ideally provide scope for the construction of customised regions and which allow flexibility in regard to the spatial level at which analysis and associated decision making is undertaken.

While on the surface, this need for ‘flexibility’ appears to be in opposition to the need for ‘consistency’ discussed previously, both can potentially be satisfied through the use of mesh blocks, a new geographical unit currently being developed by the ABS. A mesh block is a micro-level geographical unit, about six or seven times smaller than current census CDs (i.e. between 30 and 60 dwellings), which will be designed to aggregate to a wide range of existing administrative and statistical boundaries. Individuals and organisations will have the capacity to develop custom regions simply by adding mesh blocks together in whatever combination best suits their purpose.

Maximum geographical flexibility can be achieved via the use of geocoded data, where information is linked to specific point locations on the Earth’s surface (as defined by latitude and longitude). The power of geocoding lies in the fact that once a statistical unit has been allocated a latitude and longitude it can be coded to any geographic classification, but at the same time, remain independent of standard classifications, which are commonly subject to revision over time. As a result, geocoding offers users ultimate flexibility to define custom regions and facilitates the combination of data from different sources.

Mesh blocks and georeferencing are discussed in more detail in Chapter 6.

4.5 SOCIAL ISSUES

There is a widespread demand for statistics about the people who reside in particular regions, including regions in rural areas of Australia. Such information is generally required to address one or both of the following questions:

- what are the characteristics of those who reside in specific regions and how are the size and structure of regional populations likely to change in the future?
- what are the factors that affect the quality of life of those who reside in specific regions and how do such factors vary within and across regions?

In addition, rural and regional analysts and policy makers are now increasingly focusing on community issues, in an attempt to understand how community factors affect social and economic wellbeing and to identify the key elements necessary for the creation of strong rural and regional communities.

4.5.1 Rural and regional demography

RESEARCH POLICY ISSUE

Improved understanding of the size and structure of rural and regional populations, particularly in respect of migration patterns.

SIZE AND STRUCTURE OF REGIONAL POPULATIONS

Information on the size and structure of regional populations continues to be of fundamental importance to research agencies and policy makers. Such data are particularly valuable for assessing infrastructure and service needs and are critical to state government grants bodies and local government authorities for the allocation of funding and other resources.

The main types of demographic data requested include:

- population estimates by age and sex
- population projections (including family and household projections)

There is a strong demand for reliable population estimates for areas smaller than SLAs – the current geographical basis for most ‘small area’ population estimates produced by the ABS. This reflects both a need for population estimates within regions (e.g. towns within an SLA) and for small areas that can be aggregated to form customised regions. There is also demand for small area population projections (including household/family projections) to assist in forecasting long and short-term regional population growth trends. Such information is a valuable input into policies and programs focusing on infrastructure/service development and environmental management.

REGIONAL MIGRATION

Migration is now recognised as a key factor in regional social and economic development, as noted in Chapter 2. The main type of demographic data requested is migration estimates, i.e. movement into and out of a region. While this is a demographic data need, and so is discussed in this section, it more broadly informs Regional Quality of Life and Regional Community Strength research/policy themes.

In recent times many non-metropolitan regions in Australia have experienced population declines resulting from sustained periods of negative net migration. This may have a significant effect on the regions concerned, given that in most cases mobility is greatest amongst young people, who, through childbirth, are also the primary drivers of demographic renewal. In some regions young people may also be the primary drivers of social interaction and economic activity. Out-migration is also likely to significantly affect regional labour markets, both from the perspective of reducing the size of the available labour force and narrowing the skills base available to regional businesses.

By contrast, while migration is a source of population decline in some regions, other regions, particularly those located on the coast, have experienced strongly positive patterns of net migration. This presents a range of different challenges to policy makers including the need to effectively plan and implement infrastructure and services and to minimise population-related degradation of the natural environment. To address the issues raised by regional migration, analysts have requested statistics not only about *gross and net migration flows*, but also about the *demographic characteristics of migrants*.

4.5.1 Rural and regional demography *continued*

REGIONAL MIGRATION *continued*

Information about the *origin and destination* of migrants may also inform analysis of regional migration flows. While the primary focus is on internal migration, international migration may also be an important factor in some regions, particularly in light of current government policy aimed at encouraging skilled migrants to settle in regional Australia.

Short-term migration and commuting are also increasingly important regional issues, reducing the extent to which place of residence determines the geographical location of an individual's social and economic activity. One potential means of investigating the impact of commuting on regional economies is through the analysis of *journey to work* information. This is discussed in more detail in section 4.6. There is also interest in *service population estimates*, which are discussed in more detail in section 4.5.2.

4.5.2 Rural and regional quality of life

Drivers of social and economic change, including factors such as the structural reform of global, national and regional economies, rapid technological change and service centralisation have had a greater impact on some regions than on others. Over time there has been a growing interest amongst policy makers and social researchers in measuring variations in quality of life across different regions, and in identifying disadvantaged populations in need of targeted assistance.

RESEARCH POLICY ISSUE

Information to assess quality of life across all regions of Australia, and for specific population groups within regions.

While the specific social, economic and environmental elements that contribute to overall quality of life vary from individual to individual, socioeconomic wellbeing, opportunities for personal development and access to services and resources are generally seen as the primary determinants. While researchers and policy makers may be interested in measuring the overall quality of life enjoyed in specific regions, demand for statistical information of this type has been driven largely by a desire to measure variation in specific components of quality of life across regions. Such information allows the identification of disadvantaged regions where quality of life is relatively poor, or under threat, and subsequently the development of programs to address the specific social and economic challenges faced by the population of these regions. In addition there is growing recognition that socioeconomic disadvantage tends to be highly spatially concentrated within particular regions. Through the analysis of small area data disadvantaged sub-populations within regions can be identified and government assistance appropriately targeted. While disadvantage may be associated with particular geographical regions or sub-regions, specific population groups may be at particular risk of social and/or economic hardship.

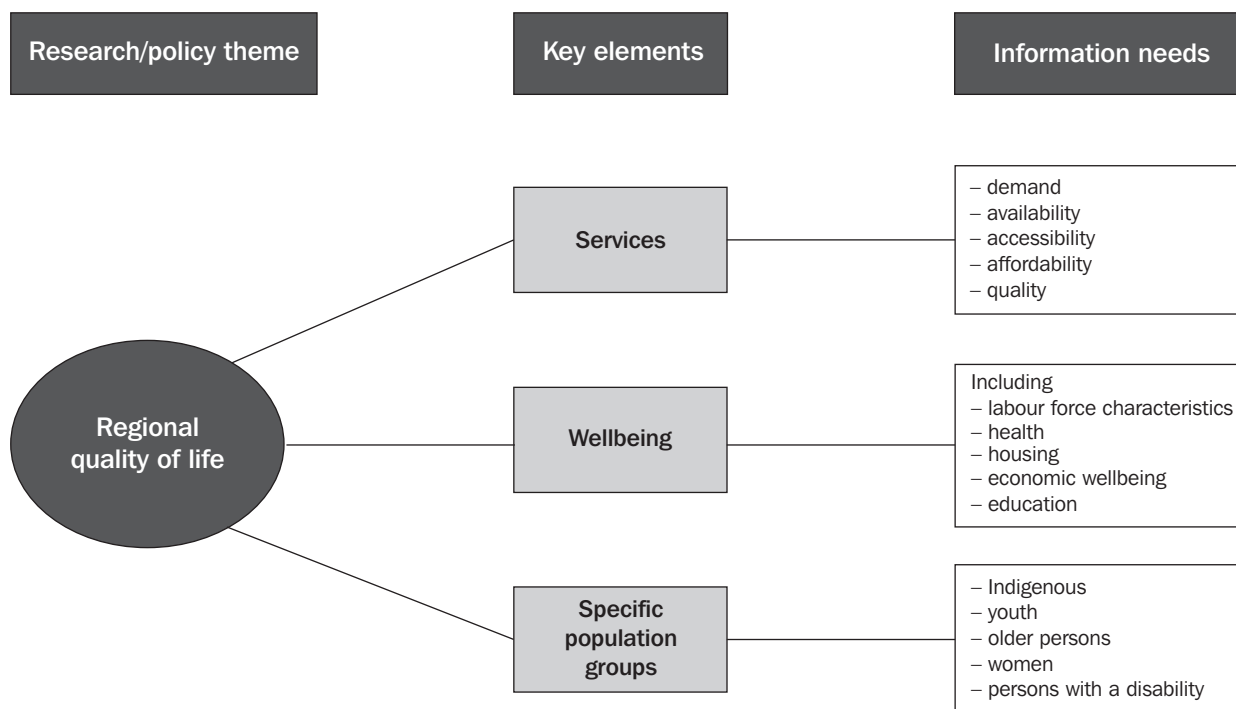
4.5.2 Rural and regional quality of life *continued*

Specific information requirements associated with this research/policy issue are discussed under the following headings:

- Services
 - information related to the analysis of demand for rural and regional services and the availability, accessibility, affordability and quality of such services
- Wellbeing
 - measures associated with wellbeing, including economic wellbeing, employment, health and housing
- Specific population groups
 - information about ‘at-risk’ and other specific groups within rural and regional areas, including Indigenous persons, women, persons with a disability, youth and older persons.

Figure 2 presents a summary of the key elements associated with this research/policy theme and the linked areas of information need.

2 INFORMATION-RELATED COMPONENTS OF REGIONAL QUALITY OF LIFE



SERVICES

Data relating to the level of demand for and the availability, accessibility, affordability and quality of regional services and infrastructure are required to identify potentially disadvantaged populations and to assist regional planners in developing better services.

In recent years there has been growing concern about the withdrawal of public and private sector services from non-metropolitan regions of Australia and the impact of this on regional communities. This is a particular issue with regard to education and health services, as there is evidence that education and health outcomes in some rural and regional areas are below those of larger metropolitan areas (ABS, 2003a and AIHW, 1998). Education and health are also important elements in the development of human

4.5.2 Rural and regional quality of life *continued*

capital (see section 4.5.3). The availability of child care services is a factor in labour force participation. Transport services and infrastructure are considered to be a key factor in regional wellbeing as the availability of public transport services and, in more remote regions, the existence of sealed roads to primary service centres may determine levels of access to employment opportunities, goods and services and other forms of social and economic support. Decline in the availability of commercial and administrative (transactional) services in some non-metropolitan regions, particularly financial services, has been marked over the last decade. Promoting equality in access to services across regions has been a specific regional policy goal in Australia (BTRE, 2003b).

The notion of 'service provision' encompasses a range of elements including demand, availability, accessibility, affordability and quality. In some remote regions service availability and accessibility may be closely linked to access to information and communication networks. This recognises that it may not be physically or economically viable to provide face-to-face services in some remote areas. Instead the provision of services in such regions may occur predominantly via other means including telephone, post or the Internet. In some regions service availability may also be affected by the supply of a suitably skilled workforce, for example the availability of health services in some remote areas may suffer as a result of a lack of suitably qualified medical personnel.

To measure levels of service availability, information on the *location, number and type* of services available in specific regions is required, as is information on the *extent and quality* of the facilities and services provided. Estimates of the *value of local government assets* may provide an indication of service availability, but are unlikely to be indicative of the quality of available services. In the case of services provided by government, 'quality' may be assessed via a variety of *performance measures*, and indeed, as noted in Chapter 2, government-led evaluation of existing rural and regional programs is currently a key driver of data demand. The suitability of specific performance measures is highly dependent on the nature of the program or service being assessed. While in some cases, basic usage measures may be applied, *outcome measures* are generally considered most useful. For example, there is currently a high level of demand for outcome data relating to regional education services. This includes *course retention and completion rates, levels of educational attainment, and literacy and numeracy measures*. Outcome measures such as these may also be used in the measurement of human capital (see section 4.5.3).

There is also demand for data concerning the post-school experience of young people, so that the performance of education and training strategies can be assessed on the basis of employment and further education outcomes. Such data may also be indicative of access to tertiary and vocational education opportunities in specific regions.

Assessment of the affordability of rural and regional services requires regional data relating to *service costs and charges*. Such information may be particularly useful when analysed in conjunction with regional measures of economic wellbeing.

As indicators of current and future levels of demand, *population estimates and projections* are particularly useful to government agencies responsible for the effective planning of rural and regional services. While data on service usage may also be a useful indicator of demand, such information is of greatest value from a service planning perspective when details are available about the origin of those who are using regional

4.5.2 Rural and regional quality of life *continued*

services. For example, very high usage levels of a particular service may result from the absence of similar services in other regions, rather than being indicative of the need for an increased number of services in the region being analysed. The accurate mapping of regional *service catchment areas* and on *measures of remoteness* based on the physical distances regional populations must travel to access various types of service, is of assistance in understanding the likely spatial dimensions of current service usage patterns. This work goes hand-in-hand with efforts to develop *service population estimates*, which provide details of the population who currently access particular types of service, and which, by taking into account increased population mobility, may provide a more accurate guide to regional service use than traditional population estimates.

WELLBEING

Socioeconomic wellbeing is a key factor in determining overall quality of life. Researchers and policy makers require a clearer understanding of how socioeconomic wellbeing varies across regions. This requires consideration of a wide range of measures.

Intra- and inter-area differences in socioeconomic wellbeing remain the focus of much population-themed regional research. As previously mentioned, social and economic disadvantage may be highly spatially or demographically concentrated, and consequently regional policy makers are particularly interested in information which facilitates the development and implementation of targeted programs and services. A wide range of social and economic factors may directly affect the lives of rural and regional people, however the elements most commonly recognised as associated with socioeconomic wellbeing in regional Australia are:

- labour force characteristics
- health
- housing
- economic wellbeing
- education.

Data needs relevant to each of the above are discussed in detail below (with the exception of education, which is discussed in section 4.5.3). While a sectional approach is adopted, it is recognised that the concurrent analysis of each of these elements is often of most value in gaining an understanding of quality of life in rural and regional areas. For example, while income measures are likely to be a useful input into policy targeted at regional poverty, a more comprehensive understanding of regional poverty is likely to be obtained through the concurrent analysis of income, employment and dwellings data.

Further measures related to wellbeing are discussed in later sections, for example crime (4.5.3) and the environment (4.7).

LABOUR FORCE CHARACTERISTICS

Employment is integral to quality of life considerations. While income through employment assists with basic living needs, employment is also a means via which individuals may learn and apply new skills, gain access to social networks and develop a sense of self-worth. As a result of a range of economic and technological pressures, the availability and nature of employment in many rural and regional areas has changed significantly in recent years.

4.5.2 Rural and regional quality of life *continued*

LABOUR FORCE CHARACTERISTICS *continued*

Regional data on the *number of people employed* cross-classified by age, sex, industry, occupation and household/family status are useful in understanding regional labour markets. To provide an insight into regional economic wellbeing, there is also a demand for regional *wage and salary data* (data needs associated with regional economic wellbeing are discussed in detail in a following section). Measures of the total *number of people unemployed*, *regional unemployment rates* and general measures of *labour market experience* (length of time employed, length of time spent looking for work or out of the labour force) are also required. Data measuring *duration of unemployment* are considered particularly useful, as long-term unemployment engenders socioeconomic disadvantage. Information about *discouraged job seekers* (those who have given up actively looking for work) is also valuable as an indicator of 'hidden unemployment' in specific regions.

Given the rising prevalence of part-time and casual work, measures of regional *underemployment*, both as an indicator of untapped labour supply in regional areas and of the ability of regional economies to meet the employment demands of its working age population, are also sought. The Tasmanian Government's *Tasmania Together* vision statement highlights underemployment as a major concern, noting that underemployment has social and economic implications for both the individual and the broader community (Tasmania Together Progress Board, 2001). Underemployment may be assessed via information about total *number of hours worked* and measures of the number of employed persons in the region who would ideally prefer to work additional hours. Data on number of hours worked is also indicative of work-life balance, which may also be considered a determining factor in an individual's overall quality of life.

HEALTH

People living in non-metropolitan regions generally have poorer health than those living in metropolitan areas (AIHW, 1998). Improving health outcomes in regional areas has consequently emerged as a key policy priority. In 1999, *The Healthy Horizons Framework*, a joint program of federal and state health departments and the National Rural Health Alliance (NRHA), was released. This report identifies seven priority goals for the improvement of health in rural and remote Australia, focusing on policy development, resource allocation and community-led initiatives (NRHPF and NRHA, 1999). The Framework also specifies National Health Priority Areas – those diseases/health conditions which most affect the population – including mental health, diabetes, cardiovascular health and cancer.

The Australian Institute of Health and Welfare (AIHW, 2003) has published a statistical framework describing the information needs associated with rural and regional health and the existing data sources that can address these needs. Three primary categories of regional health data need are identified. Specifically, data are required to:

- identify poor health outcomes
- ascertain and understand the reasons for these poor outcomes
- implement policy responses for improved health service provision.

4.5.2 Rural and regional quality of life *continued*

HEALTH *continued*

Broadly, these data needs translate into a demand for regional data on peoples' *health status*, the *determinants of health*, and *expenditure on and utilisation of health services*.

Health status data are required in order to assess current levels of physical and mental health in regional areas. Primary indicators of health status are data on morbidity and mortality, such as *life expectancy*, *infant mortality*, *age-specific death rates by cause*, and *hospital separation rates by illness*. In addition there is considerable interest in measures of the *nature and extent of disability* in specific regions. Data needs regarding persons with a disability are discussed in greater detail in the following section on specific population groups.

Personal behaviour (e.g. *smoking*, *alcohol consumption*, *other drug use*, *nutrition habits* and *exercise*), sociodemographic and socioeconomic characteristics (e.g. *cultural background*, *economic wellbeing*), and environmental factors (e.g. *air and water quality*) may all be significant determinants of individual health. Regional data on each of these elements may assist in the development of effective prevention strategies and to better understand variations in health outcomes across regions.

As in the case of other rural and regional services, information on the *availability and utilisation* of various types of health services is required (data needs relating to regional services are discussed in greater detail under 'Services'). Information on *health expenditure* may also be indicative of the availability and quality of health services in a given region. There is also a requirement for information on levels of *private health insurance* uptake in regional Australia so that dependency on the public health sector can be better assessed.

HOUSING

The availability of affordable, good quality housing, particularly rental housing, is an important contributor to regional quality of life. Information on the *stock of private and public housing* is required by government agencies to help plan housing policy (e.g. through infrastructure and land use zoning, and provision of public housing). The extent of the private rental housing market in a region may be indicated by information on tenure. To assess the affordability of regional housing, information on *housing prices* and details of *rental and mortgage payments*, as a proportion of household income, may be useful. This can subsequently be used to effectively target government assistance to disadvantaged groups through the provision of low cost public housing and rent assistance.

Data indicative of *regional housing quality* has also been requested. While this may be a difficult concept to measure, quality may be assessed on the basis of information about dwelling age, structural quality, need for repair, and the presence or absence of basic amenities such as heaters, bathrooms, sewerage facilities etc.

Information about regional housing markets may also be suggestive of broader forms of economic and social wellbeing in a region. For example, high *housing vacancy rates* may be indicative of economic stagnation. Disadvantaged regional populations may find themselves 'trapped' in a region by low house prices and hence unable to take up

4.5.2 Rural and regional quality of life *continued*

HOUSING *continued*

opportunities in regions where housing costs are, by comparison, prohibitively high (Beer et al, 2003).

ECONOMIC WELLBEING

Standards of living are greatly determined by command over economic resources. This affects the ability to pay for basic necessities, such as food, clothing and shelter, and is a major factor in empowering individuals and families to make the lifestyle choices they desire.

The ABS report *Measuring Wellbeing* (ABS, 2001c) defines 'economic wellbeing' as comprising three separate elements – income, wealth and consumption. It acknowledges the challenge of accurately measuring economic wellbeing, particularly from a wealth and consumption perspective, and notes that "finding practical ways for obtaining reliable data which usefully describe people's economic circumstances is....an ongoing issue". In addition to data that highlight cross-regional differences in economic wellbeing, there is a strong demand for sub-regional data, in acknowledgment of the fact that socioeconomic deprivation tends to be highly spatially concentrated within regions.

Regional administrative bodies are particularly interested in personal and business income measures to monitor the performance of the economic development programs for which they have responsibility. Government agencies seek information on *personal wealth* to determine assistance funding and resource allocation for specific areas.

Regional income distributions and summary measures such as *average gross household income* and mean taxable income are considered a key priority for these purposes as are other measures of household and personal wealth, such as *levels of asset ownership, value of shares and savings, and superannuation*. The economic wellbeing of farm families and the contribution of off-farm work to income are further measures of regional economic wellbeing. *Household expenditure data* and statistics on levels of *disposable income* are useful indicators of consumption. Regional information about the level of *dependency on welfare services* is a valuable indicator of economic disadvantage which informs the effective planning of support services for those members of the community most in need.

Economic wellbeing is likely to be a determining factor in regard to the level of affordability of regional goods and services. Service affordability was discussed in greater detail in the previous section on services.

SPECIFIC POPULATION GROUPS

Specific regional sub-populations, including the Indigenous population, youth, older persons, women, and persons with a disability, may face additional challenges. A range of socioeconomic data specifically relating to these groups is required to help address disparities in wellbeing within regional communities.

As previously noted, socioeconomic disadvantage tends to be highly spatially concentrated. Consequently, it has been recognised that broad-based regional policies can often have only a limited impact on rural and regional socioeconomic wellbeing. One outcome of this is an increased focus on the development of policy programs targeted specifically at 'at-risk' groups within rural and regional areas. Regional population

4.5.2 Rural and regional quality of life *continued*

ECONOMIC WELLBEING *continued*

subgroups that may face unique and/or additional socioeconomic challenges to the general population include Indigenous Australians, young people, older persons, women and persons with a disability. The development of effective policy to support these groups is reliant on the availability of accurate, regularly updated data relating to their size, distribution and socioeconomic characteristics.

THE INDIGENOUS POPULATION

The highly disadvantaged and geographically dispersed nature of Aboriginal and Torres Strait Islander populations creates a special need for accurate and timely information on Indigenous *population size, location and socioeconomic characteristics*. Separate identification of Indigenous and non-Indigenous populations in rural and remote areas is also important in order to determine whether perceived instances of disadvantage in these areas, as determined on the basis of aggregated summary measures, are due to remoteness or Indigenous factors (AIHW, 2003). There is a particularly strong demand for regional information on *Indigenous health and economic wellbeing*, given the continuing disparity in health status and unemployment levels between the Indigenous and non-Indigenous population. Improving the health status of Indigenous populations in rural and remote areas is identified as a primary concern in the National Rural Health Policy Forum's *Health Horizons: A Framework for Improving the Health of Rural, Regional and Remote Australians* (NRHPF and NRHA, 1999). Data indicative of *community and cultural involvement* are also considered important.

Previously, it was important from an administrative standpoint that Indigenous data be made available at the Aboriginal and Torres Strait Islander Commission (ATSIC) region level. Similarly, it will be important that future data release corresponds to the spatial framework(s) used by Indigenous administration and advocacy bodies. Improving the level of accuracy and frequency of Indigenous data is a key priority for the ABS. Separate IDPs for Indigenous health statistics (ATSIHWIU, 1998) and Indigenous Community Services (ATSIHWIU, 2002) have previously been released by the Aboriginal and Torres Strait Islander Health and Welfare Information Unit (ATSIHWIU), a joint program of the ABS and the AIHW. The ABS Education and Training Statistics IDP and the National IDP for Crime and Justice Statistics both have an Indigenous statistics component, and other IDPs under development (such as those focusing on ageing, housing, and children and youth) are considering Indigenous statistics needs.

YOUTH

In some regions a variety of factors including limited employment and post-school education and training opportunities, and isolation brought about by fragmentation or absence of social networks, may subject youth in these areas to additional pressures not experienced by other members of the community or by young people in other regions. There is a particular interest in identifying youth-at-risk in regional areas via indicators of *mental health, drug and alcohol abuse, juvenile crime and youth suicide*. The development of appropriate policy responses to address these and other youth issues is reliant on measures showing the nature and extent of the problems faced and the availability of small area socioeconomic data on younger populations.

4.5.2 Rural and regional quality of life *continued*

OLDER PERSONS

Similarly, information is needed to address a range of issues that relate to an ageing population. Regional level *demographic data* are needed to measure the extent of population ageing in specific regions and allow the assessment of current and future levels of demand for aged care facilities and sheltered housing, as well as other services for aged persons (e.g. health, transportation). Ageing populations are of particular concern to the local government sector as increases in the population of concession holders in particular regions will affect councils' rate revenue raising abilities in those regions, at the same time as demand increases for additional services for older persons. Information on concentrations of *senior housing* may also help guide the design of transport routes, ensuring that seniors' transportation needs are satisfied and that public infrastructure is used more efficiently. Other types of statistics needed by analysts include detailed *socioeconomic data* on the aged population and information on seniors' *retirement intentions, relocation options and levels of support from volunteers and paid carers*.

WOMEN

Women in rural and regional Australia face additional challenges to those faced by the general population. Employment opportunities are not as frequent or varied as those available to urban women, however women throughout rural Australia contribute substantially to regional economies through their participation in the labour force. The extent of this contribution is the major issue for which quantifiable information is required.

PERSONS WITH A DISABILITY

Governments at all levels are seeking to provide improved support to people with physical and mental disabilities. To facilitate the implementation and delivery of effective support services and programs, information about the *nature and severity of disability* in specific regions is required. This includes indicators of the *level of support required* to perform everyday tasks, *current service usage* and *living arrangements*. Data indicative of *involvement in social and community activities*, including *labour force participation*, is needed to assess the degree to which persons with a disability are engaged in the broader community, something considered to be a key factor in overall wellbeing. Particularly in more remote regions, availability of formal and informal support services may be limited. Regional information concerning *existing health and community services*, and *access to professional and voluntary carers* can be analysed in conjunction with available data on population health to determine whether required levels of assistance are being provided.

4.5.3 Rural and regional community strength

As noted in Chapter 2, across all levels of government there has in recent times been an increasing focus on 'bottom-up' regional policies and programs, developed and implemented in partnership with regional communities. While this shift away from a 'top-down' regional governance has to a large extent been driven by broader recognition of the often complex nature of regional issues, and the consequential need for programs and policies tailored to the specific needs of the target region(s), such an approach also recognises the role of community strength as a key factor in regional social, economic and environmental wellbeing. There is currently a great deal of interest among regional

4.5.3 *Rural and regional
community strength
continued*

researchers and policy makers in measuring the level of community strength that exists in regions.

RESEARCH POLICY ISSUE

The development of statistical definitions and indicators that facilitate the measurement of rural and regional community strength.

There is a widely held view that the ability of regions to respond to social, economic and environmental challenges is enhanced where a high level of community strength exists. This has been supported by the results of various studies which have suggested an association between economic and social resilience and the existence in a region of strong social networks and a sense of ‘community togetherness’ (OECD, 2001, National Economics, 1999 and Productivity Commission, 2003b). However, while there is increasing recognition of the links between community factors and regional wellbeing, there continues to be much debate about precisely how community strength should be defined and measured.

A crucial first step in an improved understanding of community strength and the links between its various elements and regional social, economic and environmental outcomes, is the development of *statistical frameworks* which formally define the concept and describe the statistical indicators via which community strength may be most appropriately measured. The ABS has been active in this area, recently releasing an information paper on social capital (ABS, 2004f), generally considered to be a key element of community strength. This paper presents a descriptive framework for the measurement of social capital, together with a proposed set of indicators. Work focused on the definition and development of community strength is also underway within many state/territory governments. For example, the Department for Victorian Communities was created in late 2002, and is currently developing a range of indicators to assess community strength in regions in Victoria. Studies of community strength have also recently been undertaken by the Productivity Commission (Productivity Commission, 2003b) and the Australian Government Department of Family and Community Services (FaCS, 2001).

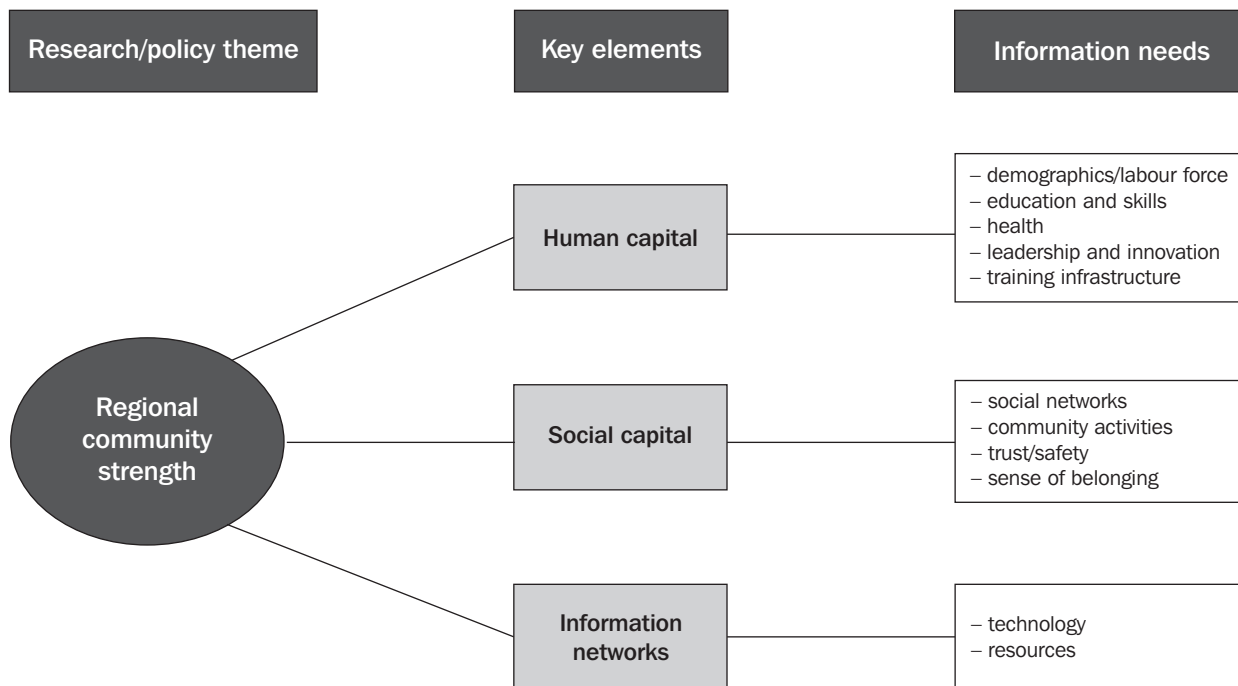
‘Community strength’ is most commonly used in reference to the social resources that exist in a region, or a region’s ‘social and human capital’, but may also be used to refer to a wide range of additional regional characteristics including the economic and environmental resources that a specific community can draw upon. Data needs associated with regional economic and environmental issues are discussed in detail later in this Chapter. The remainder of this section focuses specifically on data needs linked to the following three core elements of community strength:

- Human capital
 - the capacity of people in a region to contribute to the social and economic wellbeing of their community.
- Social capital
 - the family and social networks that promote cooperation and trust within a community.
- Information networks
 - the technology and resources that promote the transfer of knowledge and information within a region.

4.5.3 Rural and regional community strength
continued

A visual summary of the key elements of this policy/research theme is provided in figure 3.

3 INFORMATION-RELATED COMPONENTS OF REGIONAL COMMUNITY STRENGTH THEME



HUMAN CAPITAL

Regional researchers and policy makers require a range of data to measure the level of human capital that exists in specific regions, including information about current labour force structure and skills, and indicators of the capacity of populations to apply their knowledge and skills to meet regional social, economic and environmental goals.

In broad terms ‘human capital’ refers to ‘the capacity of people to contribute to the community’ (FaCS, 2001). As in the case of other aspects of community strength, there is some debate about precisely how this should be measured. In most regions, human capital acts as a driver of social and economic development primarily via the labour market, and hence the majority of recent studies of human capital focus on the characteristics of the regional labour force. However, human capital may also be utilised by the community in other ways, for example through local action groups and voluntary organisations. Deficiencies in human capital may act as a significant barrier to regional economic growth and, in some cases, to the effective provision of regional services.

Measuring human capital involves an assessment of the knowledge and skills of the population residing in a region and consideration of the capacity of residents to apply their knowledge and skills in the pursuit of social, economic and environmental goals. Such capacity may be determined by a range of individual factors including, degree of motivation, leadership ability and capacity for innovation. Health may also be a determining factor as this may affect an individual’s ability to make a community contribution. In regional Australia, the formation and engagement of human capital may also be influenced by a range of community or locational factors, such as the availability

4.5.3 *Rural and regional community strength continued*

and quality of education and training infrastructure and the existence in the region of social and information networks (these elements of community strength are discussed in detail in the following sections).

A partial measure of the value of the human capital that exists in a region may be obtained using estimates of *lifetime labour income*; broadly, the total derived labour-related income a person will receive over their lifetime. This requires *regional wages and salaries* data, in addition to details of *occupation* and *labour force participation*. Measures of human capital can also be developed via analysis of the size and composition of the regional labour force. This requires regional *population estimates by age and sex* in addition to measures of *employment, unemployment* and *labour force participation*. There is a particular demand for data indicative of the knowledge and skills of regional populations, including data on *educational attainment* and details of *post-school qualifications*. While formal qualifications and advanced technical skills are viewed as particularly valuable, skills diversity within a community is also considered important, as the existence of expertise across a range of disciplines may promote the broadening of a region's economic base. A further indication of regional labour force skills may be obtained via the construction of *job profiles* based on information about employment by occupation and industry.

Reflecting the central role of knowledge and skills in the development of human capital, researchers and policy makers require detailed information about the education and training facilities and programs that exist in specific regions. Data needs related to regional services, including education and training services are discussed in detail in section 4.5.2.

Aspects of human capital such as leadership and innovation are more difficult to measure. Measures of regional business innovation are discussed in section 4.6. Where 'leadership and innovation' are used to refer to residents' capacity to contribute to local decision making, *knowledge and skill profiles* and measures of the effectiveness of *community networks* may be indicative of the potential for leadership and innovation in an area, if not necessarily a measure of actual levels. Similar measures may be developed via the use of attitudinal surveys.

As previously mentioned, *health* is considered an important aspect of human capital as it may affect an individual's capacity to apply and/or further develop their knowledge and skills. Regional data needs relating to health were discussed in detail in the previous section on rural and regional quality of life (section 4.5.2).

SOCIAL CAPITAL

A range of data is required to measure the level of social capital in regional areas, including information on community events and infrastructure, voluntary activity and feelings of trust and safety.

The measurement and analysis of social capital has in recent years emerged as a key theme of rural and regional research in Australia. The growth of social capital is seen by many regional policy makers as a key factor in the development of community strength and hence an important element in the enhancement of regional social, economic and environmental wellbeing.

4.5.3 *Rural and regional
community strength
continued*

Various definitions of social capital exist. As previously mentioned, the ABS has recently released an information paper which sets out a descriptive framework for the measurement of social capital, together with a proposed set of indicators (ABS, 2004f). This paper defines social capital as the resources available within social groups such as families, communities, firms and social clubs, and the networks of mutual support, reciprocity, trust and obligation that exist within specific regions. This definition is based on a range of earlier social capital research conducted internationally and within Australia, including work by the Organisation for Economic Co-operation and Development (OECD) – which defines social capital as the networks, together with shared norms, values and understandings which facilitate cooperation within or among groups (OECD, 2001). A paper recently released by the Productivity Commission (Productivity Commission, 2003b) provides a useful overview of recent research in this area, including a range of alternative definitions for ‘social capital’.

Measuring social capital in regions involves identifying networks within communities and assessing the effectiveness of those networks in engendering cooperation and cohesion, the sharing of information, and the provision of support to regional residents. Some of these elements may be more easily measured than others. The analysis of regional information on *household size and structure* is a first step in understanding the nature of the family and personal networks that may exist in regions. This can be augmented with information about the nature and extent of *community events and forums*, and data indicative of the *community infrastructure* (e.g. meeting places, community centres, pubs) which support such networking. While these measures highlight the range of social and community networks that exist in specific regions, measuring the effectiveness of these networks in building social capital is more challenging. It is likely that this may be best assessed via surveys including questions about *relationships, community participation* and *feelings of trust and belonging*. For example data are required which measure the *frequency and degree of social interaction* within families, and with neighbours, friends and colleagues. Community participation can be assessed via information about *involvement in sporting, social and local action groups*, including details of voluntary work undertaken. Involvement in local government, including *participation in local elections* may also highlight regions where levels of social capital are high, suggesting confidence in the effectiveness of local administrative structures.

Attitudinal data indicative of *feelings of trust, safety and belonging* may be valuable indicators of the level of social capital that exists in a region, particularly when combined with measures of regional crime. There is a demand for indicators of *crime by location and nature of offence*, in addition to estimates of the *social and economic costs* associated with crime. On the premise that community networks are likely to be stronger in areas with stable populations, *length of residency* may also be an important indicator of social capital in some regions.

In order to develop a broader understanding of the underlying factors which influence social capital formation, regional researchers are especially interested in exploring relationships between social capital and socioeconomic factors across different types of regions.

4.5.3 Rural and regional
community strength
continued

INFORMATION AND COMMUNICATION NETWORKS

The effective flow of information within and between regions is an important factor in regional social and economic wellbeing. Information describing the nature and extent of the information networks and facilities that exist in specific regions is needed.

It has been proposed that policies and programs designed to support regional communities tend to be most effective where local people are well informed and actively involved in the decision making process. Lack of access to information may exacerbate regional disadvantage through political disempowerment and by limiting opportunities for social and economic development.

The efficient flow of information within a community may be both a determinant and an outcome of the development of other forms of community strength in that region. As previously mentioned, effective information networks may encourage growth in human capital by promoting the transfer of knowledge amongst community members. Well informed residents may also be more likely to become actively involved in community organisations and events. On the other hand, information flow within a community is likely to be enhanced where well developed community infrastructure and networks exist, and where there are high levels of trust and a sense of shared belonging.

The uptake and use of information technology within households facilitates the flow of information both within and between regions. Data are required to determine the *nature and extent of the electronic information facilities* available to regional residents. In addition, measures indicative of the extent of regional access to other more traditional facilities important in the acquisition and transfer of knowledge such as *public libraries, community newspapers* and *telephone, radio and television services* may also be useful (CSIRO, 2002). As mentioned in the previous section on 'Services', information networks in more remote rural and regional areas are likely to play an important role in promoting service availability and accessibility. Regional information concerning the availability of, and access to, *telephone, Internet and broadband services* provides an indication of the extent to which residents have the capacity to utilise service providers physically located outside their region.

4.6 ECONOMIC ISSUES

As discussed in Chapter 2, over the last decade regional economies have faced increased pressure arising from a range of external factors, including national economic reform and increased competition in international markets. Economic resilience continues to be seen as the key to the long-term viability of regional Australia, and government policy at both federal and state levels, has focused on the promotion of sustained economic growth in rural and regional areas.

RESEARCH POLICY ISSUE

Understanding rural and regional economic growth and decline.

In recent times many rural and regional areas in Australia have faced significant economic challenges as a consequence of a variety of factors that, in most cases, have originated from outside the region. Such factors include the continuing momentum of globalisation which renders regions increasingly prone to the impact of external economic forces and exposes regional business to a wider range of competition and opportunities in the marketplace; and centralisation, which has involved the withdrawal

4.6 ECONOMIC ISSUES

continued

of businesses and services from rural and regional areas to larger population centres. Federal and state governments are focused on efficient economic outcomes and, through initiatives associated with National Competition Policy, some of the economic concessions which were advantageous to rural and regional areas have been removed. In conjunction with these national and international economic developments, rural and regional businesses have also been affected by rapid technological change, which creates additional challenges and opportunities for agricultural businesses.

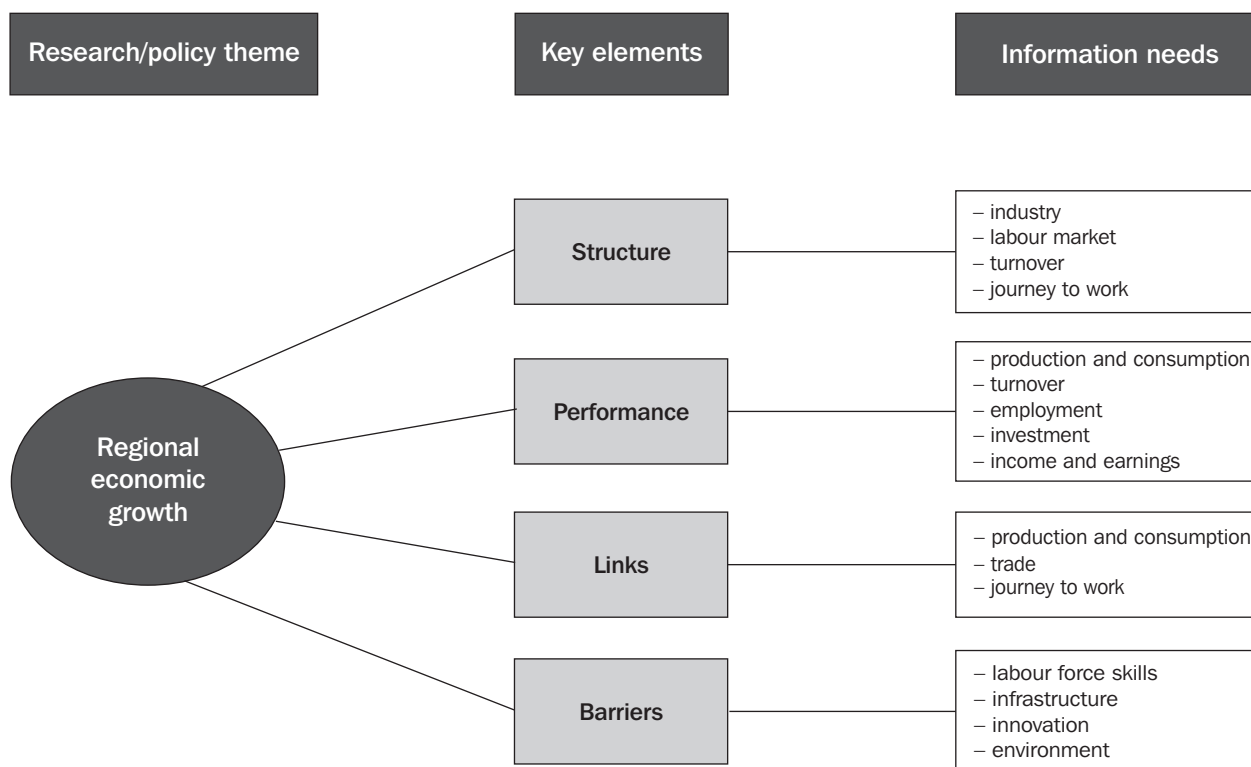
As a result of these various economic pressures, rural and regional economies have experienced a significant degree of structural change, in many cases involving the contraction or restructuring of 'traditional' rural and regional industries.

To assess the effects of economic restructuring on regions and the impact of compensatory and other structural adjustment packages, decision makers require information about the structure and performance of regional economies, regional economic links and barriers to regional economic growth.

- Structure
 - information about the type of industries that make up the regional economy and the nature of the regional labour market, including details of how the economic structure of specific regions has changed over time.
- Performance
 - measures of the economic output of rural and regional businesses, including details of turnover, production and investment, and measures of economic underperformance, such as unemployment levels.
- Links
 - measures of the degree to which a regional economy is linked to the economies of other regions (including the national and international economies). This includes information on economic inputs and outputs, trade, and service and labour catchments.
- Barriers
 - details of actual and potential impediments to regional economic growth or, conversely, those factors which may in future encourage economic growth in that region, including measures of innovation, labour force skill levels and essential infrastructure.

A visual summary of the key elements associated with this research/policy theme and the linked areas of information need is presented in figure 4.

4 INFORMATION-RELATED COMPONENTS OF REGIONAL ECONOMIC GROWTH THEME



4.6 ECONOMIC ISSUES

continued

STRUCTURE

Information about the nature and size of regional industries and labour markets is of fundamental importance in understanding rural and regional economies and in predicting the economic challenges particular regions are likely to face in the future.

The development of effective regional economic policy is reliant on the availability of detailed information about the particular industries that are located in regions. Of interest is not only the size and performance of existing industries, but also the degree of diversity that is present within regional economies. The degree of diversity of the industry provides an indication of the susceptibility of the community to cyclical and longer-term structural changes in business and employment patterns (CSIRO, 2002). While many regions outside of Australia’s capital cities continue to strongly rely on industries involved in agriculture and mining, there has, over the past decade, been a significant increase in the importance of manufacturing, tourism and service industries. In some remote Indigenous communities, community and welfare services may employ a large proportion of the working population.

Data concerning the number, type and size of existing businesses in regional Australia are required. The *Australian and New Zealand Standard Industrial Classification* (ANZSIC) provides a detailed framework for classifying businesses according to their predominant economic activity. Historically, small businesses have made up a large proportion of regional businesses. Consequently, regional development policy is strongly focused on measures to assist these types of businesses. Policy makers are also particularly interested in encouraging the growth of Indigenous businesses (businesses owned and/or operated by Indigenous Australians) in regional areas as a means of strengthening socioeconomic wellbeing within non-urban Indigenous communities.

4.6 ECONOMIC ISSUES

continued

Information about changes in the structure of regional industry may be enhanced by measures of business entries and exits. Business 'size' may be measured on the basis of a range of variables, including *number of staff employed*, *wage and salaries expenditure* and *total turnover*. When classified by *industry*, such measures are extremely useful for measuring the relative contribution of particular businesses to the overall 'economic health' of a region.

The structure of rural and regional economies can also be analysed using regional input-output tables. Input-output tables provide detailed information about the supply and disposition of products in the economy and about the structure of and inter-relationships between businesses. Such information may be used for forecasting purposes, e.g. the impact of specific economic developments on the local economy. Regional input-output tables are also discussed in the section on 'Links'.

Information about regional labour markets (including details of *overall levels of employment and unemployment*, *employment by industry*, *occupation profiles* and the extent of *full-time*, *part-time and casual employment*) provides an insight into the structure of regional economies. There is particular interest in identifying the proportion of workers in regional Australia who work outside 'traditional' industries associated with primary production. Such information is useful for gaining an appreciation of the breadth and depth of a region's economic base, as a measure of the capacity of a regional economy to support diversified employment. Such data also facilitate assessment of the impact of regional policy involving assistance packages for specific industries and structural adjustment funding outcomes. Information on *number of hours worked* provides an indication of the balance between full-time and part-time work within a particular region. Measures such as *number of job vacancies* and *rates of staff retention and turnover* are useful indicators of the 'health' of regional economies, indicating the overall level of economic stability and the rate by which certain sectors of the economy are expanding or contracting.

Regional level *journey to work* data are needed by regional development organisations, planners and research organisations to better understand regional labour market catchments. Such information is particularly useful as a means of assessing the likely impact of economic reform on regional communities, for example by indicating the areas likely to be affected by the development or closure of specific industries. *Fly-in/fly-out workers* make up a significant proportion of the workforce in some rural and regional areas, particularly in mining regions, and are likely to interact with the regional economy in a significantly different manner to permanent residents. Information on fly-in/fly-out workers may therefore be important in gaining an overall understanding of the structure of some regional economies.

4.6 ECONOMIC ISSUES

*continued**PERFORMANCE*

In order to develop effective regional economic policy and to assess the impact of current programs, analysts require detailed measures of regional economic performance. 'Performance' may be measured in a variety of ways.

Federal and state governments have implemented a wide range of programs to promote economic growth in rural and regional Australia. An assessment of the current performance of regional economies is fundamental to the development of effective

4.6 ECONOMIC ISSUES

continued

regional economic policy. Researchers and policy makers are especially interested in comparative measures (e.g. per capita measures) that allow economic performance in one region to be directly compared to that in another, thereby highlighting those regions where relative economic disadvantage exists and where policy intervention is most needed. Time series measures of economic performance provide a strong indication of the impact of past programs and are therefore valuable inputs to policy evaluation.

Economic performance may be assessed using a wide variety of measures, and indeed, it is likely that the most accurate impression of the overall 'economic health' of a region will be gained by considering a range of different indicators. Regional economic performance may be measured on the basis of *production*, where the focus is on the volume and value of the outputs of each sector of the economy; on the basis of *consumption*, where the focus is on the volume and value of the inputs to each sector; and on the basis of *income and earnings*, which are a means of assessing the degree to which the benefits of economic performance in a region are flowing directly to the population of that region. An additional factor to be considered in the assessment of economic performance is regional economic flows (including regional trade); data needs associated with this type of analysis are discussed in detail in the following section on 'Links'.

Theoretically, regional economic performance might be measured by a systematic summary of regional economic activity (e.g. production, consumption, incomes) within an established conceptual framework. Key components of regional accounts are *regional gross product estimates*, incorporating regional measures of *production related income and expenditure*, and regional input-output tables. Regional input-output tables were mentioned briefly under 'Structure' and are discussed in the following section on 'Links'. Data indicative of *household consumption* in rural and regional areas were discussed in section 4.5.2 in the context of economic wellbeing. Such information is also a useful indicator of regional economic performance, highlighting the ability of the regional economy to support the resident population and the nature and extent of consumption-related regional economic flows.

While there is a significant demand for performance measures encompassing regional economies as a whole, the improved availability of *regional income* and *industry-level turnover and production* data is seen as a priority. While production data allows regional analysts to measure the extent to which specific types of industry contribute to the overall economy, regional income may be generated from outside of the region. Analysis of Census journey to work data, for example, may assist in understanding the contribution to regional income from commuting workers. Tourism and services are important and growing industries in many regions and there is consequently a need to measure the contribution of these industries to regional economies. For example, there are demands for regional data on *visitor numbers*, *visitor expenditure* and *tourism related investment* (e.g. building approvals for hotels and motels). In addition there is continuing demand for regional *retail trade data*.

Measures of *employment* and *unemployment* may also serve as useful indicators of the 'health' of regional economies. High levels of unemployment in a region are indicative of economic underperformance and of stresses within the local economy. Conversely,

4.6 ECONOMIC ISSUES

continued

growth in employment and the *number of job vacancies* in a particular region may be used as a measure of economic growth in that region, although as mentioned in the following section on 'Barriers', regional job vacancies may in some cases be indicative of labour force skill shortages rather than an outcome of economic growth. It should also be noted that the relationship between regional employment and economic performance may be influenced by the increased mobility of regional populations. Unemployed persons residing in one region have increasingly tended to migrate to other regions in an attempt to find work. People may also commute relatively large distances to their place of work, with the result that region of residence and region of employment may differ. The migration and increased mobility of regional populations is discussed in greater detail in section 4.5.1.

In a similar manner, information on *investment by regional businesses* can also provide an insight into economic performance, given that strong economies are generally those where there are higher levels of investment. Data sought to assess the extent of internal investment include details of *capital expenditures* (including expenditure by type of asset e.g. buildings, equipment and machinery) and *research and development expenditures*. Proxy measures of regional development expenditure such as building approvals may also be useful. As in the case of other measures of economic performance, information on regional employment and investment is of particular value when broken down by industry, so that growth sectors of the economy can be identified.

While some residents of rural and regional areas may commute relatively large distances to their place of work, information on regional *household income and earnings* remains an important indicator of regional economic performance. (Journey to work data may assist in understanding the extent of commuting and the number of people whose income is earned in another region). Income and earnings are also the primary drivers of household consumption, which, as previously discussed, is a key component of the regional economy. Time series income and earnings data are particularly valuable, allowing increases and declines in regional incomes and earnings over time (and by extension an indication of regional economic performance over time) to be measured relative to other regions. Data needs relating to regional incomes are also discussed in section 4.5.2 in the context of economic wellbeing.

LINKS

Strong economic links between regions and to the national and international economy are one of the keys to regional economic growth. A range of data indicative of the number and quality of such links is required for the development of effective regional economic policy.

It is clear that regional economies are by no means 'closed systems' and that the economic activity of a given region is likely to extend far beyond the physical boundaries of that region. As such, there may be considerable challenges in associating economic activity with specific geographical regions. An understanding of the nature and extent of the links between a regional economy and that of other regions (including the national and international economy) can assist with this. This type of analysis is increasingly relevant in light of the continuing momentum of globalisation and the implementation of national competition policy, which have required regional industries to compete in national and international markets and have thereby exposed regional economies, more than ever before, to external economic forces. Through an understanding of regional

4.6 ECONOMIC ISSUES

continued

economic links, the effect on a region of specific internal and external economic impacts can be better understood.

Regional input-output tables have previously been mentioned as a technique to understand the structure and performance of regional economies. The development of regional input-output tables would require information on *production* and *consumption* for each of the major industrial or economic sectors in an area. This typically includes businesses within the region, individuals and families residing and/or employed in the region, government authorities active in the region and the capital stock existing in the region, in addition to businesses outside the region linked to the regional economy (Stimson et al, 2002).

One potential application of input-output tables is the development of *regional multipliers*. Multipliers may be derived directly from input-output tables and estimate the flow-on effects of increased demand for the output of one industry on the outputs of other, linked sectors of the economy.

Trade data are a key component of regional input-output tables and are valuable indicators of economic linkage in their own right. Data on *imports and exports* are sought according to origin/destination (e.g. overseas, interstate, intrastate), and on the basis of industry and commodity. Regional development organisations seek detailed information about current imports and exports in order to understand the existing situation and to identify import replacement opportunities. They also meld this with information regarding potential export opportunities to help inform decisions about regional development funding. *Freight movements* (tonnages), namely aggregate movements of goods by rail, road, sea and air, have been identified as a potential proxy measure of regional trade flows.

Journey to work data also provide information about regional economic linkages, highlighting the origins and extent of the labour supply utilised by regional businesses. Also, as mentioned under 'Structure', *fly-in/fly-out workers* may make up a significant proportion of the workforce in some regions, and may interact with the regional economy quite differently to permanent residents. To better measure the economic links between regions, improved information on the nature and extent of fly-in/fly-out labour is needed.

4.6 ECONOMIC ISSUES

*continued***BARRIERS**

Through the elimination of 'economic development barriers' improved regional economic growth may be achieved. Such barriers may include the lack of a suitably qualified workforce, absent or poor quality infrastructure and a lack of innovation. Environmental barriers to economic growth may also exist in regions (for example, those regions that rely on primary production activities).

Various studies of rural and regional economic development have identified factors which have historically impeded business investment and growth. A comprehensive summary of such studies can be found in the *Regional Business Development Literature Review* (SGS, 2002) produced as part of the Regional Business Development Analysis project administered by DoTaRS. Depending on the specific region in question, a range of economic barriers may be present, however the lack of a suitably skilled workforce, absence of required infrastructure, and insufficient levels of innovation are generally viewed as primary factors. In addition, environmental barriers to economic growth may be an important factor within regions that continue to rely predominantly on primary production.

In an economic environment where growth has been increasingly determined by the expansion of knowledge-based industries and innovations in production processes, economies have become more dependent on improvements in the skills of the workforce. In some regions sustained levels of out-migration have resulted in skilled labour shortages, consequently constraining the level of human capital available to regional businesses and thereby representing a significant barrier to economic growth. The availability of a suitably skilled workforce may also affect levels of service provision in some regions. As discussed in section 4.5.3, the assessment of regional labour force skills requires information about *educational attainment* and *post-school qualifications*, in addition to measures of *employment by occupation and industry*. The level of human capital found in a region may also be partially dependent on the *education and training infrastructure* that exists in that region. Information indicative of the availability, accessibility, affordability and quality of regional services is discussed in section 4.5.2.

In conjunction with data on *numbers of apprenticeships and traineeships* and *enrolments in vocational education and other courses*, this can provide an insight into current and future levels of human capital in a region. In this way, information on the number and size of education and training providers in regional areas, and the types of education and training services they provide, is important in assessing the capacity of existing training systems to respond to community and business needs. The ABS, in conjunction with the Department of Education, Science and Training (DEST), the Australian National Training Authority and state education and training departments, has released a framework and IDP for education and training statistics which define in detail the scope and content of this field of statistics and related statistical priorities (ABS, 2003c and 2004e). That IDP however does not specifically address regional educational data needs.

While measurement of regional labour force skills (through measures such as education levels and occupations) may be undertaken, identifying skill shortages and assessing the degree to which such shortages and deficiencies in education and training infrastructure are acting as a barrier to regional economic growth is complex. One means by which

demand for specific skills may be measured is through the analysis of regional *job vacancies data*. Local surveys of business owners and managers may assist in an improved understanding of the impact of skill shortages on individual regional businesses, although because of their inconsistencies such methods are generally impractical to implement on a national or state basis. In some cases, regional deficiencies in human capital may discourage businesses from setting-up in a particular region. Measuring the extent of the economic activity lost as a result is particularly challenging.

Inadequacies in regional transport, power and communication infrastructure, can also compromise economic growth by inhibiting important forms of economic activity and making regions less attractive to potential investors. Data indicative of *investment in regional infrastructure*, the *quality of existing regional infrastructure* and *current levels of usage and demand* are required.

The capacity of available transportation and communication networks is of particular relevance in more remote regions. The Australian Government's *National Land Transport Plan* (AusLink) (DoTaRS, 2002a) and the *Roads to Recovery Program* aim to improve the transport links across regional Australia. Improving the availability and quality of information technology and communications infrastructure in rural and regional Australia is the aim of the Australian Government's *Networking the Nation Strategy*, launched in 1997. The ABS is currently producing an IDP for transport statistics, which will elaborate on regional level data specific to transport issues.

The ability of regional industries to compete in national and international markets is increasingly dependent on innovation and the effective adoption of new technology into existing production processes. While in some respects 'innovation' may be difficult to measure, information on *regional investment*, particularly in respect of equipment, technology and research and development, provides some indication of regional innovation. Innovation in rural and regional Australia is also reliant on the retention of skilled people and entrepreneurs in these areas and on the availability of well-developed information networks. *Skills and infrastructure* data discussed above are also relevant to the understanding of investment and innovation within regions.

A recent ABS discussion paper, *Measuring a Knowledge-based Economy and Society - An Australian Framework* (ABS, 2002a), identifies a wide range of possible indicators of business innovation at a national level, some of which may also be applicable to regional analysis.

While in recent times the economies of many regions have diversified significantly, in more moderately diversified areas regional economies may remain reliant on primary production activities. In such cases, environmental issues may prove a significant barrier to economic development. Environmental barriers may arise through population or industry-induced degradation of natural resources and ecosystem services, such as the contamination and depletion of water sources or reductions in soil quality. Alternatively such barriers may arise as a consequence of natural processes, such as drought or infestation of pests and weeds. There is little information currently available directly describing the environmental barriers to regional economic growth. Estimates of the economic costs associated with such barriers would improve understanding of the impact of environmental constraints on economic development. Environmental issues are discussed in more detail in the following section.

4.7 ENVIRONMENTAL ISSUES

In recent times, sustainable development and natural resource management have emerged as major policy issues in regional Australia. Policy makers face the challenge of promoting growth and development through the effective use of natural resources and ecosystem services, while minimising environmental degradation.

Discussion of environmental data needs in the Rural and Regional Statistics IDP focuses primarily on resource management issues directly linked to regional social and economic outcomes. Broader environmental data will potentially be covered by other ABS work on environmental statistics.

RESEARCH POLICY ISSUE

Information to inform the sustainable management of rural and regional environmental resources.

While social and economic development remains a key concern for regional policy makers, there is increasing recognition of the importance of the natural environment to social and economic outcomes. The strong links between the environment and social and economic wellbeing in rural and regional Australia have been emphasised by recent droughts, which have affected many agricultural regions since the late 1990s. In the two-year period from July 2001 to July 2003 the Australian Government provided over \$142 million in Exceptional Circumstances assistance to families in rural areas to address financial hardship caused by the drought (AFFA, 2003).

In the past 15 to 20 years, population growth and increasing consumption of natural resources have placed significant pressure on the environment, although in many cases the consequences of this have not been immediately apparent. In light of growing concern about environmental degradation the concept of sustainable development has been widely embraced. One definition of this is development that 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1987). Environmental issues are now firmly embedded in the policy development and evaluation process in Australia. The concept of 'triple-bottom-line' reporting has been widely applied at all levels of government, creating a demand for measures of policy impact from social, economic and environmental perspectives.

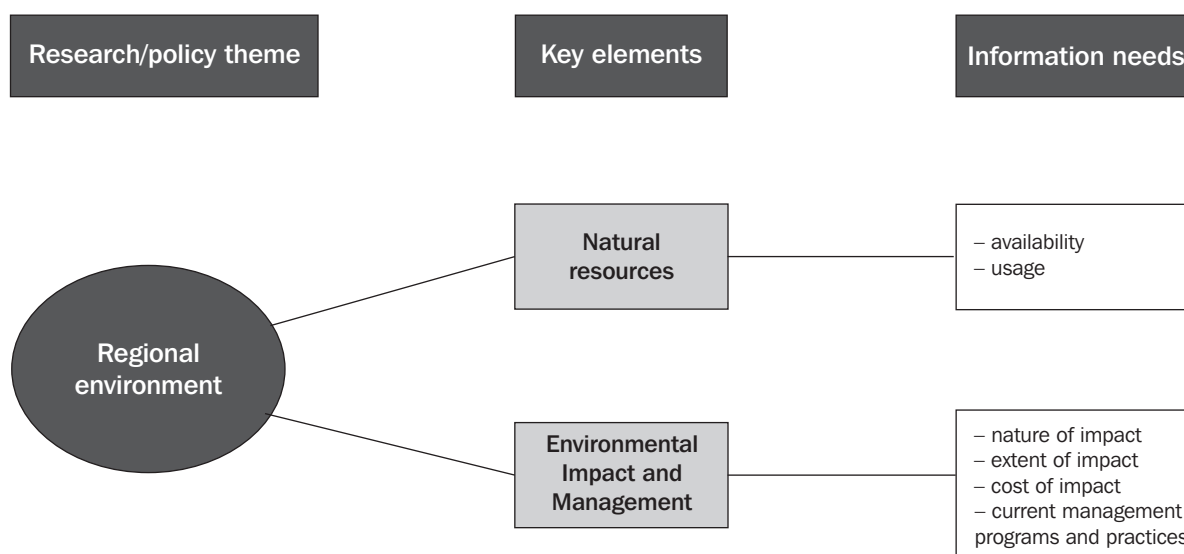
4.7 ENVIRONMENTAL ISSUES *continued*

Environmental issues are often described on the basis of the ‘condition-pressure-response’ framework originally developed by the OECD (FaCS, 2001). This framework encompasses information about current environmental conditions, human activities (pressures) that affect the environment, and government and community response to environmental issues. These themes also concur with current demands for regional environmental data. Policy makers and researchers require statistical information about the condition of environmental resources available in rural and regional Australia, and about existing forms of environmental degradation, including details of the programs implemented to address this:

- Natural resources
 - measures which describe the availability and use of environmental resources and services, including land, water and forests.
- Environmental impact and management
 - data indicative of existing cases of environmental impact, including information about the nature and extent of the problem and the estimated costs incurred. Information about current environmental programs targeted at sites of potential and actual impact is also required.

A summary of the key elements of this research/policy theme is presented in figure 5.

5 INFORMATION-RELATED COMPONENTS OF THE REGIONAL ENVIRONMENT THEME



A particular challenge when collecting environmental data is the fact that environmental systems may extend over relatively large areas. This means that a particular environmental issue in one region may arise as a result of activity outside that region. Consequently traditional administrative boundaries are in many cases largely irrelevant when considering environmental variables, and natural systems boundaries must be delineated instead.

4.7 ENVIRONMENTAL
ISSUES *continued**NATURAL RESOURCES*

Rural and regional populations may be particularly dependent on the resources and 'services' provided by the natural environment. The effective use of these resources, in a manner consistent with the ideals of sustainable development, requires information on their likely endurance and current rates of exploitation.

Over time, as awareness of environmental issues has expanded, the value of the many and varied natural resources and processes that support economic and social systems has increasingly been recognised. This includes resources such as water, forests, land and sub-soil resources such as coal and other minerals. Populations in rural regions may be particularly dependent on the natural environment due to continued reliance on industries involved in primary production. To sustainably manage rural and regional natural resources policy makers require a range of data indicative of resource availability and use.

Regional information on *resource stocks* are valuable, primarily water, mineral and timber resources. This includes both quantity-based measures and, where appropriate, value-based measures.

Information on *land use* in rural and regional areas is also needed, particularly in respect of the amount of land used for mining activity, forestry and agriculture, as these primary production activities have the potential to significantly impact on the natural environment. The nature of specific types of land use is also important particularly in respect of agricultural land use, where measures of *farming intensity*, *nutrient levels* and *fertiliser use*, and the *amount of land under crops* or *subject to grazing* are needed. *Agricultural productivity measures* (e.g. commodity production volumes) are indicative of the capacity of Australia's existing agricultural land resource to support regional and urban populations, and over time may highlight such factors as variations in soil quality and the impact of changed farming practices.

The management of Australia's scarce water resources is a significant area of current concern, particularly in light of increasing demands for water for agricultural and industrial use. Reduced river flows as a consequence of *water use* and drought may contribute to raised salinity levels and increased occurrences of algal blooms (MDBC, 1995). There is consequently a need for information on water use to monitor demand for water resources and data on *natural and actual flow levels* in rivers and streams. Ground water is an important source of fresh water for many rural and remote communities, however in some areas ground water resources are being extracted at a rate faster than natural recharge. The Australian and New Zealand Environment and Conservation Council (ANZECC, 2000) have identified aquifers with falling water levels or bore pressures as a core environmental indicator of the sustainable use of ground water resources. Information on the *consumption, supply* and *rate of depletion of ground water resources* is in demand.

4.7 ENVIRONMENTAL ISSUES *continued*

Regional data on logging and forestry activities is required to determine whether forestry resources are being used sustainably and in a manner which promotes natural ecosystems through the preservation of native flora and fauna. The type of information required includes the *rate or amount of timber harvests from natural forests, the area of forests* that have been harvested or affected by logging, the *stock of existing forests*, and the *area of timber plantations*.

ENVIRONMENTAL IMPACT AND MANAGEMENT

Strong demand exists for information about current and potential sources of regional environmental impact, and for information about conservation programs implemented to minimise such impact.

Sustainable development relies on minimising the impact of human activity on the natural environment. Natural environments in rural and regional areas have been subject to accelerated pressure as the exploitation of natural resources has steadily increased. The nature and extent of environmental concerns may vary considerably across different regions. For instance, cities face challenges in the management of urban stormwater run-off and sewerage and associated marine environment degradation, while in rural regions there may be more concern about issues such as land clearing, water usage and associated salinity problems. A National Action Plan (NAP) for Salinity and Water Quality was endorsed by the Council of Australian Governments in late 2000 (COAG, 2000). This targets what are seen to be the two major natural resource management issues facing regions – salinity and deteriorating water quality – and identifies 21 priority regions (NAP regions) most affected by these issues.

Environmental data are required to measure the effect of current human activity on the natural environment and to better understand the impact (and associated economic costs) that has arisen from past practices. In addition, there is currently a significant level of interest in assessing the degree of effectiveness of existing conservation policy and in the better coordination of environmental initiatives across the three levels of government. As mentioned in the introduction to this section, this IDP focuses primarily on environmental data needs closely linked to regional social and economic outcomes.

Many of Australia's rivers, streams and ground water resources have rising salinity and nitrate levels. Irrigation and the clearing of natural vegetation have increased the salinity of waters entering rivers either through underground seepage or runoff. Rising salinity levels threaten the suitability of fresh water supplies for human consumption, agriculture and industry, promote land degradation and threaten aquatic fauna and flora. Information about the *level of salinity* found in rural and regional water sources and measures of *groundwater depth* are therefore needed to assess the extent of salinity problems and to monitor remedial strategies.

4.7 ENVIRONMENTAL
ISSUES *continued*

Land degradation, or 'a reduction in the soil's capacity to produce in terms of quantity, quality, goods, and services' (CIESIN, 2003) is a key concern for rural and regional policy makers since it has a direct impact on agricultural production activities. Degradation occurs when there is either a reduction in soil nutrients, deterioration in soil structure, or contamination of the soil. Regional information is needed about types of land degradation, area affected or at risk, and severity of degradation. Specific data required include measures of *salinity*, *loss of soil structure and quality*, *erosion*, *weed and pest infestation*, and *surface waterlogging*. As well as assessing the extent of these problems and the size of the areas affected, there is also a significant demand for measures of the *economic impact of land degradation*. This involves an assessment of the productive capacity of land which has been lost.

In addition to statistical demand arising from a desire to measure current and potential sources of environmental impact, there is increasing demand for information about the range of *environmental conservation programs* currently being implemented in rural and regional areas. Data describing the nature and extent of such programs is required in order to better assess the extent to which rural and regional environments are at risk of future degradation, to assess the effectiveness of current initiatives, and to ensure the better coordination of environmental policy across the three levels of government. The evaluation of existing programs in terms of cost-benefit analysis has been identified as a key requirement for effective environmental management by the National Land and Water Resources Audit (NLWRA, 2002).

5.1 INTRODUCTION

Chapter 4 provided an overview of the key themes evident in rural and regional policy making and research, and the implications of these on data demand. The demand for information about rural and regional areas was discussed, focusing on the evaluation of social, economic and environmental outcomes in Australian regions (also known as TBL or triple-bottom-line reporting). Also discussed was the need for the consistent geographical classification of rural and regional data, in a manner which affords users the flexibility to define regions best suited to the analysis being undertaken.

This Chapter highlights currently available primary sources of rural and regional data. The discussion has been organised on the basis of the key themes identified in Chapter 4; namely, demography, quality of life, community strength, economic growth, and environmental issues. Within each section, data availability is discussed in the context of the data needs outlined in the previous Chapter. Where a large number of data sources exist for a particular topic a summary table is presented. Recent developments in the geographical classification of rural and regional data are also briefly discussed.

While it is intended that this Chapter will provide an overview of currently available rural and regional data, it is not intended to be a comprehensive directory of every possible source of such data. As noted in previous Chapters, the scope of rural and regional research in Australia is incredibly broad, theoretically encompassing almost all spheres of social, economic and environmental concern. In an attempt to pinpoint the key statistical priorities associated with rural and regional research, this IDP has focused on the major issues that have directly contributed to increased demand for rural and regional data. Consequently the focus of this Chapter is on those data sources which directly relate to the statistical needs arising from these issues, rather than on rural and regional data per se. In addition, this Chapter focuses primarily on data sources that enable the spatial and/or longitudinal analysis of regional issues, in acknowledgment of the value to be gained from comparative regional analysis and from observation of change within a given region over time.

To summarise, this Chapter will focus primarily on currently available data sources that:

- provide data at a regional level (i.e. sub-state)
- directly inform the key issues identified in Chapter 4
- have the ability to provide statistical information for a range of regions, preferably for several time periods.

5.2 THE GEOGRAPHICAL CLASSIFICATION OF RURAL AND REGIONAL DATA

Following an extensive period of consultation, the ABS has designed a preliminary set of mesh blocks (mesh blocks are described in Chapter 4 and in Chapter 6). The first draft mesh block boundaries were released in September 2005. Draft mesh block boundaries will be finalised following the release of dwelling counts from the 2006 Population Census. While it is likely that only very basic census data, such as number of dwellings and population counts, will be published at the mesh block level, the full range of census

5.2 THE GEOGRAPHICAL CLASSIFICATION OF RURAL AND REGIONAL DATA *continued*

data will be available for combinations of mesh blocks. Economic statistics which are closely linked to location, such as Agricultural Census commodity data, may also be aggregated to mesh blocks. Rural and regional researchers will therefore be able to accurately derive data from these sources for specific customised regions.

Following the 2006 Population Census, a major revision of the ASGC will be undertaken. A key outcome of this will be the incorporation of mesh blocks into the ASGC Main Structure. From 2006, census CDs will be used for Population Census collection purposes only and a new unit, based on an aggregation of mesh blocks, will become the standard geographical building block for ABS statistical output. To promote and facilitate the widespread adoption of mesh blocks outside of the ABS, a new address coding tool – AddressCoder@ABS – will be released in early 2006 and will be made available via a web service. AddressCoder@ABS will be based on Public Sector Mapping Agencies (PSMA) Australia's Geocoded National Address File (G-NAF) – a national address reference database complete with geocode, released in March 2004. The ABS has also reached agreement with PSMA Australia for the inclusion of mesh blocks codes in G-NAF itself.

As mentioned in Chapter 4, geocoded data are becoming increasingly available. Many local councils now maintain geocoded asset registers, while the use of Geographical Information Systems (GIS) incorporating geocoded data are becoming more widespread at the state and national levels. The use of different georeferencing systems across different organisations has to date had some impact on the ease with which data from different sources can be combined. The ABS has investigated various options for geocoding over several years, however cost, confidentiality and methodological issues have so far limited the degree to which geocoding has been applied to ABS collections. A broader discussion of some of the 'quality' issues associated with geocoding can be found in Chapter 6.

The need for the more widespread and consistent adoption of standard geographical frameworks has been recognised by the Australian Government, with policy to encourage the dissemination of spatially consistent small area data currently being implemented by the Office for Spatial Data Management.

Prior to the release of the 2006 ASGC, a review of the ASGC Remoteness Structure will also be undertaken. This will incorporate consideration of a range of issues including the remoteness weightings given to Tasmania and other islands and the impact of seasonal roads and state borders on access to specific services.

5.3 SOURCES OF RURAL AND REGIONAL DATA

Sources of data relating to social, economic and environmental issues in rural and regional areas are discussed in the following sections. For each source, the smallest geographical area for which data can be disseminated is highlighted. It is apparent that there are currently relatively few national or state data sources that provide data for small regions (i.e. at the LGA level or below).

5.3.1 *Rural and regional demography*

Most of the sub-state demographic data currently available in Australia is produced by the ABS. Population estimates by age and sex for census CDs, SLAs and larger geographical regions are derived from the five-yearly Population Census. In non-census years a regression model is applied to update census-based SLA level estimates to the current year, such that population estimates by age and sex are available on an annual

5.3.1 *Rural and regional demography continued*

basis for all SLAs in Australia. The ABS also produces family and household estimates, however these are generally only available at part-of-state level (capital city/rest of state).

There are currently few sources of information available about regional migration. Estimates of regional migration can be derived from the Population Census, which collects information about each person's place of residence one year and five years prior to census night. This can be cross-classified on the basis of the wide range of socioeconomic variables also collected as part of the census, including age, sex, highest educational qualification and current occupation. Such information is theoretically available at the postcode level. In non-census years, the ABS produces estimates of migration derived from change of address registrations lodged with Medicare, however such estimates are not available below state level. As discussed in Chapter 4, journey to work information may serve as a useful indicator of labour force mobility. Journey to work information can be derived from the census by cross-classifying usual residence and job location data.

Population projections by age and sex are produced by the ABS every two to three years. These are generally only available at part-of-state level, but in some cases may also be available for smaller regions. Sub-state population estimates are also produced by selected state/territory planning agencies, primarily for infrastructure planning purposes. Household and family projections are released by the ABS approximately every five years at the part-of-state level.

5.3.2 *Rural and regional quality of life*

SERVICES

A variety of data sources provide information about rural and regional services. For ease of discussion these have been grouped into the following three categories:

- data sources indicating service demand
- data sources indicating service availability and accessibility
- data sources indicating service affordability and quality.

Service demand

Data indicative of demand for regional services are available from a range of sources. ABS population counts and estimates provide data about the population that could theoretically access the services available in a region or in neighbouring regions. These sources also provide information about the size of specific sub-populations within rural and regional areas, particularly in the case of the Population Census, where a wide range of cross-classificatory variables is available. On this basis, the level of need for particular types of service can be determined. Other indicators of need are available from health-related data sources which provide information about the incidence of particular health issues in a given area.

While most regional service providers are likely to collect information about levels of patronage or usage, such data may be of limited value to regional planners due to inconsistent collection methods and confidentiality restrictions. However, the fact that a large proportion of regional services (particularly in the education, health and transport sectors) are publicly administered, means that a range of 'centralised' data sources on the use of these services are available. This information is useful for assessing current service loads. For example, AIHW maintains databases containing information about users of disability support and home-based/community care services, collected directly

5.3.2 *Rural and regional
quality of life continued*

Service demand continued

from service providers (these sources are described in more detail under 'Health' in the following section). Regional information on hospital waiting times, available from state health departments, is indicative of pressure on regional health services. Statistics on waiting times for public sector housing are also available from most state housing authorities. The National Centre for Vocational Education Research (NCVER) collects annual data in respect of enrolments in vocational education programs and services. These are published for Statistical Subdivisions and for broad regions (capital city, other metro, rural, remote).

ABS surveys such as the annual Survey of Education and Work, the three-yearly Child Care Survey and the five-yearly Survey of Disability, Ageing and Carers, include questions about usage of and unmet demand for education, child care and aged/disability support services, respectively. However, such surveys are generally of only very limited value in assessing demand for regional services, given that results tend only to be available for relatively broad regions (e.g. Statistical Regions (SRs) in larger states and capital city/rest of state regions in smaller states).

In addition to those data sources mentioned in table 6, planning agencies in most states have produced population projections by age and sex, in some cases for areas as small as census CDs. Such data may assist planners by indicating likely levels of demand for regional services in the future. However the methodology used and the frequency with which such projections are updated tends to vary from state to state, making it difficult to compare regions in different states. Population projections for areas as small as CDs are also available on request from the ABS. ABS regional projections have the advantage of comparability across state boundaries, however, in contrast to projections prepared by some state planning agencies, factors such as the future availability of residential land are not taken into account.

6 SUMMARY OF AVAILABLE DATA RELATING TO DEMAND FOR RURAL AND REGIONAL SERVICES

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Population	ABS	Population Census	CD	Every 5 years
		Estimated resident population	SLA	Annual
Usage of existing services	<i>Education</i>			
	ABS	Population Census	CD	Every 5 years
	State education depts	Number of enrolments	Service location	Annual
	NCVER	Number of enrolments in vocational education	Broad region (see text)	Annual
	<i>Health/aged care</i>			
	ABS	National Health Survey	SD (selected)	Every 3 years
	Australian Government and state health depts	Usage of hospital and General Practitioner (GP) services	Service location	Ongoing
		Usage of disability and home-based care services	Health service region	Ongoing
	Medicare Australia	Utilisation rates for non-hospital health services	LGA	Annual
	<i>Child care</i>			
	FaCS	Census of Child Care Services	Primarily state/territory, some data also available for selected regions	Every 2–3 years
	<i>Transport</i>			
	ABS	Survey of Motor Vehicle Use	Broad regions within state/territory of registration	Annual
Motor Vehicle Census		Postcode	Annual	
Indicators of need	ABS	Population Census	CD	Every 5 years
	Australian Government and state health depts	Incidence of specific health conditions	Various	Various
Indicators of unmet demand	<i>Health/aged care</i>			
	Australian Government and state health depts	Hospital waiting times	Service location	Ongoing
	<i>Housing</i>			
State housing departments	Waiting times for public housing	Various	Ongoing	

5.3.2 *Rural and regional
quality of life continued*

Service availability/accessibility

Federal and state government agencies responsible for the administration of education, health, community and welfare services maintain relatively detailed information about existing services, including details of the number of service providers in particular regions and the capacity of these providers to supply particular types of service. In respect of regional education services, separate information can be provided for the schools (public and private), vocational education and tertiary sectors. Much of the available data in respect of providers of vocational education is collected by NCVER. Separate information is generally available from state health departments for various types of health service provider including public hospitals, GPs and providers of aged care and disability services, although in some cases data are only released for relatively large regions. Details of service capacity, for example number of available hospital beds or residential aged care places, are generally also available at a regional level. Much of this information is coordinated nationally by AIHW. The ABS conducts an annual survey of licensed private hospitals, which collects information about facilities, activities, staffing and finance; however to maintain confidentiality data are generally only released at the state level. The National Community Services Information Agreement, an initiative involving national, state and territory community service authorities, the ABS and AIHW, aims to improve the availability of information about aged care, disability services, child care, family support services, child welfare, and community relief and crisis services, and to promote the improved standardisation of this information across the various jurisdictions (ABS, 2003b). As part of this initiative a Children's Services National Minimum Data Set, incorporating a range of information about available services, is currently being developed. The APN Business Information Group has for a number of years collected and published descriptive information (e.g. location, size and type) about individual hospitals and health care establishments.

The Rural Transactions Centre Program is an Australian Government program that provides funds to regional communities for the establishment of 'transaction centres' to provide a range of services such as financial, postal and administrative services. As part of its role in administering the program, DoTaRS holds information about the location and nature of existing transaction centres. In some states and territories centralised transaction and information centres, designed to provide residents of rural and remote regions with improved access to a range of state government services, have been established. Examples of such initiatives include Service Tasmania and the Queensland Government Agent Program. Data indicative of the availability and accessibility of state government services in regions are likely to be available from these agencies. Locational information about banks and credit unions is available from the Australian Prudential Regulation Authority, while details of existing post offices are available directly from Australia Post.

5.3.2 Rural and regional
quality of life *continued*

Service availability/accessibility continued

Statistical information relating to regional transport services is held by most state transport agencies. This generally includes data on the length of roads by type in regional areas. Geoscience Australia maintain various mapping data sets containing locational and basic quality information (e.g. sealed, unsealed) about regional road networks.

The Australian Local Government Association (ALGA) is currently developing a national framework for local government road asset management, which is likely to involve the collection of data in respect of the scale and condition of regional road networks and associated maintenance expenditure. Government transport agencies also commonly hold a range of information about the availability of public transport services in regional areas, however the type of data and degree of detail tends to vary from state to state. In addition, such information sources usually focus predominantly on urban regions rather than on regions in more remote areas. BTRE has recently completed a project analysing the availability of long-distance public bus and rail services in regional Australia using published timetable information.

A further indication of the availability of regional services can be obtained from state and local government financial records, which provide information about funding related to the development of new programs and services. As mentioned in Chapter 4, estimates of the value of local government assets may also provide some indication of the availability of regional services. Additional information on health expenditure in rural and regional areas is available from AIHW, based on consolidated government expenditure data for specific facilities. However, confidentiality constraints limit the availability of such data to broad regions only (e.g. capital city/rest of state). The ABS National Health Survey (NHS) collects data measuring the extent of private health insurance coverage, which may also be a determining factor in the availability and accessibility of regional health services.

5.3.2 *Rural and regional
quality of life continued*

Service availability/accessibility continued

‘Availability of services’ is a much simpler concept to measure than ‘accessibility of services’, since ‘accessibility’ has many different dimensions and may mean different things to different people. The Accessibility/Remoteness Index of Australia (ARIA) assigns an indicator of remoteness to points on the Earth’s surface based on the physical road distance from that location to urban centres of various sizes. This may be used as a proxy measure of service accessibility, although it should be noted that remoteness, as defined by ARIA, may not necessarily be the only factor in determining this. The Griffith Service Access Frame is used by a range of government service providers to measure accessibility, and, as well as accounting for the physical distance between specific points and the location of particular types of service, also incorporates a wider range of variables such as time, cost and socioeconomic capacity. Attempts have been made by state health departments in Victoria and New South Wales to measure regional access to health services via the analysis of data on hospital admissions for ‘ambulatory care sensitive conditions’ (ACSC); conditions for which hospital admission is deemed to be preventable on the basis of preventative health care. Such studies adopt the hypothesis that high rates of ACSC admission may be reflective of poor access to non-hospital health care services in particular regions. In 2000, the Australian Bureau of Agriculture and Resource Economics (ABARE) collected data on service accessibility as part of the annual Agricultural and Grazing Industries Survey. Farmers were asked to provide details of the average travel time required in order to access various types of services, including health and banking services.

As discussed in Chapter 4, in some regions, particularly in remote areas of Australia, service availability and accessibility may be dependent on the availability of and access to information and communication networks. Some existing sources of data related to regional information and communication networks are discussed in section 5.3.3.

7 SUMMARY OF AVAILABLE DATA RELATING TO THE AVAILABILITY AND ACCESSIBILITY OF RURAL AND REGIONAL SERVICES

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Number of services	<i>Community and welfare services</i>			
	FaCS and equivalent state/territory agencies	Location and nature of services	Service location	Ongoing
	<i>Education</i>			
	Australian Government and state education depts	Location by type and size	Service location	Ongoing
	NCVER	Number of vocational education providers	Broad region (capital city, other metro, rural, remote)	Annual
	<i>Health/aged care</i>			
	State/territory health depts	Location and nature of services	Location	Ongoing
	AIHW	Number of services by type and capacity	SR (published), may also be available for selected smaller areas	Irregular
	APN Business Information Group	Descriptive info about individual health care establishments	Service location	Annual
	<i>Child care</i>			
	FaCS	Census of Child Care Services	Primarily state/territory, some data also available for selected regions	Every 2–3 years
	<i>Transport</i>			
	State transport depts	Number and nature of public transport	Various	Ongoing
	BTRE	Long-distance bus and rail services	Service location	Annual
	Geoscience Australia	Geocoded road network data by quality	Service location	Annual
<i>Other services</i>				
DoTaRS	Location and nature of Regional Transaction Centres	Service location	Ongoing	
Selected state govt agencies (see text)	Location and nature of state govt transaction centres	Service location	Ongoing	
Australian Prudential Regulation Authority	Location of banks and credit unions	Service location	Ongoing	
Australia Post	Location of post offices	Service location	Ongoing	
Other measures	ABS	Local government finance	LGA	Annual
		National Health Survey	SD (selected)	Every 3 years
	ABARE	Supplement to Agricultural and Grazing Industries Survey	Broadacre region	Once-off
	State treasuries	Government expenditure on publicly funded services	Service location	Annual

5.3.2 Rural and regional quality of life *continued*

Service affordability/quality

There are relatively few 'centralised' data sources relating to the affordability and quality of rural and regional services. The Household Expenditure Survey collects information about household spending on a wide range of goods and services and provides insight into relative differences in service costs across broad regions. Information about the cost of child care services is available from both the ABS and the Department of Family and Community Services (FaCS), although in both cases data are generally only available for relatively large regions. Government agencies and consumer groups have previously

5.3.2 Rural and regional quality of life *continued*

Service affordability/quality continued

collected information about the costs of various goods and services in different locations, however data are generally only collected for a relatively small number of locations and are commonly focused on capital city regions. Examples of surveys which provide useful information on regional service costs are the Australian Automobile Association's monthly survey of average petrol prices in selected locations, and the quarterly Grocery Price Survey conducted by Northern Territory Treasury which measures the total cost of a fixed basket of goods at various locations in the Territory and interstate. Similar data have also been collected from a number of regional centres in Queensland by the Queensland Office of Economic and Statistical Research (OESR). Work is currently underway within the ABS aimed at developing spatial price indexes, using prices data currently collected for the Consumer Price Index. These spatial price indexes will measure differences in the cost of selected groups of services between the eight state/territory capital cities.

Information about regional incomes provides a contextual basis for assessing the affordability of regional services. A variety of data sources are available and are discussed in detail in the following section on 'Economic wellbeing'. Potentially the most useful of these is the Household Expenditure Survey as it collects data about both expenditure on goods and services and total household income, although data are available only for relatively broad regions due to sample size. Other sources of information on regional incomes are the Population Census and the administrative data maintained by the Australian Taxation Office (ATO) and FaCS which measure, respectively, income by source and income associated with Centrelink income support payments. The ABS has recently published experimental SLA level estimates of personal income based on data sourced from the ATO and FaCS (ABS, 2005a).

Measuring service quality is far from straightforward since different users of a service may have different needs and may assess quality in different ways. In addition, quality is a difficult concept to measure numerically, and measures of quality suitable for one type of service may be less suitable for another. As mentioned in Chapter 4, in some cases an effective means of measuring regional service quality is by the use of 'outcome measures'. Education departments in some states hold regional information about apparent retention rates in schools, a useful outcome measure for assessing the quality of regional education services. Information on student-teacher ratios and literacy and numeracy levels in regional schools may in some cases also be available. A range of information from state health departments indicative of the quality of regional health services is coordinated nationally by AIHW, using as a basis the National Health Performance Framework. This includes details of hospital accreditation, defined as the capacity to provide a health service based on skills and knowledge (AIHW, 2002).

Information on the quality of regional transport infrastructure in Victoria is available from the Victorian Government from the 1999 *Pavement Inventory and Condition Report*, which provides data on road surface condition within individual LGAs. Similar information is available from the Road Information Management System maintained by the Tasmanian Government. In 2000, respondents to the Agricultural and Grazing Industries Survey conducted by ABARE were asked to rate the quality of various types of services in their region including health and administrative services.

8 SUMMARY OF AVAILABLE DATA RELATING TO THE AFFORDABILITY AND QUALITY OF RURAL AND REGIONAL SERVICES

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Cost of specific services	<i>General</i>			
	ABS	Household Expenditure Survey	SD (selected)	Every 5 years
	<i>Child care</i>			
	ABS	Child Care Survey	SR (selected)	Every 3 years
	FaCS	Census of Child Care Services	Primarily state/territory, some data also available for selected regions	Every 2–3 years
Ability to pay	ABS	Population Census	CD	Every 5 years
		Household Expenditure Survey	SD (selected)	Every 5 years
		Personal income by source (ATO and FaCS data)	SLA	Annual
	FaCS	Centrelink income support recipients	Postcode	Ongoing
Outcomes/quality	<i>Education</i>			
	(Selected) state education depts	Apparent retention rates, student/teacher ratios, literacy and numeracy measures	Various	Annual
	<i>Health/aged care</i>			
	Australian Government and state health depts	Hospital accreditation and various outcome measures	Service location	Annual
	<i>Child care</i>			
	ABS	Child Care Survey	SR (selected)	Every 3 years
<i>General</i>				
	ABARE	Supplement to Agricultural and Grazing Industries Survey	Broadacre region	Once-off

5.3.2 Rural and regional quality of life *continued*

WELLBEING

As discussed in Chapter 4, the ‘wellbeing’ of residents of rural and regional areas may be assessed via a wide range of socioeconomic measures. Available data sources able to provide information on rural and regional socioeconomic wellbeing have been categorised as follows:

- data sources indicating labour force characteristics
- data sources indicating health
- data sources indicating housing characteristics
- data sources indicating economic wellbeing.

Labour force characteristics

As discussed in Chapter 4, labour force data are indicative of both regional socio-economic wellbeing and of the structure and performance of regional economies. Table 9 focuses on labour force data sources relating specifically to regional wellbeing, namely those that provide information about the labour force characteristics of rural and regional populations. Labour force data sources indicative of regional economic structure and performance are discussed in section 5.3.4.

While the ABS Labour Force Survey (LFS) is designed primarily to produce reliable monthly estimates at the national and state level, estimates of employment and unemployment for broad regions within states can also be provided. The LFS provides an estimate of the regional labour force (i.e. persons aged 15 years and over who are either employed or unemployed and actively looking for work). A range of additional information is also collected including, for those who are employed, number of hours worked and duration of employment, and for those who are unemployed, the duration of unemployment. In addition to the core questionnaire, a range of supplementary surveys is attached to the LFS on a regular basis. These surveys provide a wide variety of additional labour force data including details of participation in job-related education and training, trade union membership, retirement intentions, job search experience and labour mobility. Data in respect of underemployment are now also collected as a supplement to the core LFS, on an annual basis. This identifies those persons currently employed on a part-time basis who would prefer to work a greater number of hours.

Regional labour force and unemployment estimates are available for areas as small as SLAs from the Australian Government Department of Employment and Workplace Relations (DEWR). These estimates are derived using Centrelink statistics of persons in receipt of Newstart Allowance and Youth Allowance and ABS population and labour force estimates.

5.3.2 Rural and regional quality of life *continued* Labour force characteristics *continued*

Alternative sources of information on regional employment are data sources that provide point-in-time counts of employment status. From the Population Census it is possible to calculate employment and unemployment rates for areas as small as CDs. The census also provides data in respect of labour force participation rates. Estimates of the total number of wage and salary earners in specific regions are produced by the ABS using ATO data (ABS, 2003d), while counts of the number of people receiving unemployment-related payments from Centrelink are available for small areas. DEWR regularly publishes data on commencements in the various employment programs it administers, as well as details of labour market outcomes for persons enrolled in each program, derived from a Post Program Monitoring Survey. This survey covers all former program participants and asks about their employment and education status three months after exit. These data are generally made available for DEWR labour market regions, however more detailed data may also be available.

9 SUMMARY OF AVAILABLE DATA RELATING TO LABOUR FORCE CHARACTERISTICS OF RURAL AND REGIONAL RESIDENTS

Type of measure	Agency	Source/description	AVAILABILITY	
			Geography	Frequency
Estimates	ABS	Labour Force Survey	SR	Monthly
		Labour Force Supplementary Surveys – see text	SR (dependent on sample size)	Various
	DEWR	Small Area Labour Market Series	SLA	Quarterly
Counts	ABS	Population Census	CD	Every 5 years
		Wage and salary earner data (ATO)	SLA	Annual
	Centrelink	Benefit recipients	Postcode	Ongoing
	DEWR	Post Program Monitoring Survey and other administrative sources associated with the National Job Network	DEWR labour market regions	Ongoing

5.3.2 Rural and regional quality of life *continued*

Health

Federal and state health departments and AIHW collect a wide range of data indicative of the health status of the Australian population, derived from hospital statistics, health notifications, disease registers and survey data. Much of this information is available for regions within individual states and territories. For example the AIHW national hospital morbidity database holds details of hospital admissions classified by disease/illness for most public and private hospitals in Australia. The Commonwealth State/Territory Disability Agreement – National Minimum Data Set (CSTDA NMDS) is a national data source maintained by AIHW containing information about persons requiring home-based care from disability support service providers. The Home and Community Care Minimum Data Set (HACC MDS) is a similar database that holds information collected from community care service providers about persons utilising these services, and about the types of services provided. While information from both sources is generally published only at the state level, data for individual health agency planning regions within states are in most cases also available. More recently, National Minimum Data Sets for Mental Health Care have been established. These cover persons admitted to mental health care facilities, community mental health care establishments and their clients, and residential mental health care services.

Federal and state health agencies also produce measures of the prevalence of specific health-risk factors such as smoking, alcohol and drug abuse, poor nutrition and physical inactivity within regions. Similar data are collected as part of the ABS NHS. The NHS also collects data on the prevalence of a variety of long-term health conditions and measures self-assessed health status using a variety of different scales. The ABS Survey of Disability, Ageing and Carers provides a measure of the prevalence of selected long-term health conditions, including the rate of particular types of disability, however data are generally only available for broad regions (i.e. selected SRs). The ABS has previously released small area predictors of disability based on a model fitted to results of the 1998 Survey of Disability, Ageing and Carers, which provide predictions of the proportion of persons in private dwellings with disabilities, classified by degree of severity, at the SLA level.

Information on mortality in rural and regional areas is available from both the ABS and AIHW. While the geographic level of dissemination and frequency of collection varies for different types of measure, regional information on life expectancy, mortality rates (including infant mortality) and cause of death is generally available.

Data indicative of the extent of private health insurance coverage were previously collected in the ABS Health Insurance Survey and published for SRs, but are now collected as part of the NHS. Private health insurance statistics are also maintained by the Private Health Administration Council, however information is generally only available at the state level.

10 SUMMARY OF AVAILABLE DATA RELATING TO THE HEALTH OF RURAL AND REGIONAL RESIDENTS

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Morbidity	ABS	National Health Survey	SD (selected)	Every 3 years
		Survey of Disability, Ageing and Carers	SR (selected)	Every 5 years
	Australian Government and state health depts	Various data indicative of population health status	Various	Various
	AIHW	Various data indicative of population health status	Various	Various
		CSTDA NMDS	Health service region	Ongoing
		HACC MDS	Health service region	Ongoing
National Minimum Data Sets for Mental Health Care		Health service region	Ongoing	
Mortality	ABS	'Vitals' collections	Various	Annual
	AIHW	Various data including cause of death and life expectancy	Various	Various

Housing

Information on housing stocks and housing costs in rural and regional areas is available from state government agencies and from a variety of ABS sources.

Valuation agencies in each state hold a range of data in respect of property sales and valuations. While data collection and availability vary across states, in most cases details of the value, type and location of rateable properties are held. Most state valuations agencies (and some individual councils) store such information in Geographical Information Systems, from which summary information about housing and other properties in specific regions can be easily obtained. Such data are generally available for LGAs, but in some states may also be available at the postcode level. Housing trusts/authorities in most states hold information about the number of occupied and unoccupied public housing properties, classified by type (e.g. number of bedrooms) in specific areas. Counts of applicants for public housing and associated waiting times are generally also available. In most states public housing data are available at the LGA level, however in some cases information may also be available for individual postcodes. A count of the housing stock in specific regions may also be derived from the Population Census. Counts of dwellings by type (number of bedrooms) and tenure in particular regions are also available. The monthly Building Approvals Collection provides CD level data on approvals of residential building projects, classified by type of building (e.g. separate house, flat, townhouse).

5.3.2 *Rural and regional
quality of life continued*

Housing continued

In addition to the sales data held by state valuation agencies, an indication of housing costs in particular regions may also be obtained from ABS local government finance information, from data on average property rates, and from the ABS building collections, which record details of the total (predicted) value of construction for each dwelling. A variety of data sources provide regional information on rental and mortgage payments. Details of weekly expenditure on housing costs by tenure type are collected in the census and the Household Expenditure Survey. Each of these collections also gather information about household incomes such that the relative cost of housing in particular regions can be assessed. Data indicative of rental costs in regional areas are also available from most state housing authorities. In New South Wales, this includes information about rental payments to private landlords, determined on the basis of lodged rental bonds. Additional information on housing costs, household income and tenure type are available on an annual basis from the ABS Survey of Income and Housing (SIH), although generally only at the capital city/rest of state level. From 2003–04, the SIH and the Household Expenditure Survey were combined to form the Household Income and Expenditure Survey. This will be conducted every two years with a component equivalent to the Household Expenditure Survey included every six years, based on a subset of the main sample. Selected sub-state data will be available.

AIHW and FaCS maintain a range of information associated with the administration of the Commonwealth–State Housing Agreement and other schemes linked to the provision of housing assistance. This includes details of persons receiving Commonwealth Rent Assistance, Mortgage Relief payments, and First Home Owners grants. While the focus of this tends to be on the provision of information at state/territory level, selected information may also be available for specific regions.

11 SUMMARY OF AVAILABLE DATA RELATING TO RURAL AND REGIONAL HOUSING

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Housing stock	ABS	Population Census	CD	Every 5 years
		Building approvals	CD	Monthly
	State housing authorities	Number of public housing properties	Various	Ongoing
Housing costs	ABS	Population Census	CD	Every 5 years
		Buildings statistics	CD	Monthly
		Local government finance	LGA	Annual
		Household Expenditure Survey	SD (selected)	Every 5 years
	State valuation agencies	Total and average housing prices	LGA (postcode data may also be available in some states)	Quarterly
	State housing authorities	Rental costs for public/private housing	Various	Various
	AIHW/FaCS	Housing support payments (e.g. rent/mortgage assistance)	Various	Ongoing

5.3.2 *Rural and regional quality of life continued**Economic wellbeing*

The Population Census is the primary source of regional income data, providing details of individual, household and family income for areas as small as CDs. Information on regional incomes can be combined with a wide range of socioeconomic data to provide a detailed overview of wellbeing in rural and regional areas. A practical application of this is the development by the ABS of a series of Socioeconomic Indexes for Areas (SEIFA) based on census data. For the 2001 Census, four separate SEIFA indexes have been developed, including the Index of Relative Socioeconomic Disadvantage which assigns a score to areas as small as CDs based on observed measures of household income, employment, family structure and housing tenure. Information on regional incomes can also be derived from data held by the ATO. The ABS has recently published experimental SLA level estimates of personal income based on ATO and FaCS data (ABS, 2005a). Data in respect of the income of farm families are collected by ABARE on an annual basis via a series of surveys focusing on specific sectors of the agriculture industry (e.g. beef, dairy, grains). Details of both on-farm and off-farm income are collected. Data from ABARE surveys are generally made available for broadacre regions, however given that every responding farm is geocoded, data are theoretically also available for smaller regions.

5.3.2 *Rural and regional
quality of life continued*

Economic wellbeing continued

The Household Expenditure Survey collects details of household income and expenditure by commodity/service for broad regions. Such information can provide some indication of financial stress by highlighting cases where a large proportion of total household income is required for essential living expenses; although in the case of expenditure items such as clothing it may be difficult to determine essential expenses from other, non-essential, forms of consumption. The 1998–99 Household Expenditure Survey also included direct measures of household financial stress. Disposable income data can also be derived from the ABS SIH. As noted in the previous section on ‘Housing’, from 2003–04 the SIH and the Household Expenditure Survey have been combined, with the new survey known as the Household Income and Expenditure Survey. Selected sub-state data are available. The National Centre for Social Economic Modelling (NATSEM), University of Canberra, have recently applied statistical modelling techniques to Household Expenditure Survey and Population Census data to impute household income, wealth and spending measures for specific regions. Data available from Centrelink on numbers of people receiving income support payments are also useful for highlighting areas where a large proportion of the population are potentially at risk of financial stress.

The HILDA Survey is a national survey funded by FaCS that collects a range of information in respect of economic wellbeing, including data about household incomes and savings. The survey has been designed to provide longitudinal information by tracking respondents over time, however estimates are generally only available at the capital city/rest of state level or for ARIA regions. As mentioned in the previous section on Housing, information about various forms of housing support payments is available from AIHW and FaCS, and may serve as an additional indicator of regional financial stress.

In the absence of more comprehensive data on regional economic wellbeing, information on new motor vehicle registrations has previously been used as an indicator of the economic health of particular regions. However, this information is no longer collected by the ABS. An alternative to the use of registrations data is data on new motor vehicle sales. The number of motor vehicle sales classified by postcode of owner is available on a monthly basis from the Federal Chamber of Automotive Industries (FCAI).

As discussed in Chapter 4, the level of affordability of regional goods and services is likely to be a determining factor with regard to economic wellbeing. Data sources indicative of regional service affordability were discussed in the previous section entitled ‘Service affordability/quality’.

12 SUMMARY OF AVAILABLE DATA RELATING TO ECONOMIC WELLBEING IN RURAL AND REGIONAL AREAS

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Income	ABS	Population Census	CD	Every 5 years
		Personal income by source (ATO and FaCS data)	SLA	Annual
	ABARE	Various farm surveys	Broadacre region	Annual
Other measures	ABS	Population Census	CD	Every 5 years
		Household expenditure survey	SD (selected)	Every 5 years
	FaCS	Income support recipients	Postcode	Ongoing
	AIHW/FaCS	Housing support payments (e.g. rent/ mortgage assistance)	Various	Ongoing
	FCAI	Motor vehicle sales	Postcode of owner	Monthly

SPECIFIC POPULATION GROUPS

As discussed in earlier Chapters, sub-populations within rural and regional areas may have specific needs requiring a targeted policy response. This section discusses currently available sources of data about the following rural and regional sub-populations:

- the Indigenous population
- youth
- older persons
- women
- persons with a disability.

The Indigenous population

Two issues to be considered in the analysis of Indigenous data are the changing propensity of individuals to identify as Indigenous, and the quality of the methods used in surveys and administrative sources to assign Indigenous status. In some cases Indigenous status will be self-reported, however, particularly in the case of administrative sources, Indigenous status may be determined by an interviewer or administrator. Potential data quality issues include identification by observation, failing to ask the correct question, and incorrect coding practices. In the analysis of Indigenous data one must therefore account for shifts over time in the propensity for individuals to identify as Indigenous, and potential deficiencies in data quality resulting from inaccurate or inconsistent coding of Indigenous status. In recent years the ABS' Indigenous Administrative Data Project has sought to improve the quality of Indigenous data, particularly in the vitals, health, education and crime and justice sectors, by promoting the use of standard question wording in administrative collections.

5.3.2 Rural and regional quality of life *continued*

The Indigenous population continued

The Population Census is a key source of information about the Indigenous population providing a wide range of socioeconomic information for areas as small as CDs. Estimates of the resident population of Indigenous Australians, based on the census, are available at the SLA level. The ABS has also produced experimental population projections for the Indigenous population. These are produced on a five-yearly basis and while the methodology employed is intended primarily to provide Indigenous projections at the state level, projections for smaller regions can also be produced upon request.

The ABS Indigenous Social Survey, last conducted in 2002, also provides a range of socioeconomic data about the Indigenous population including details of income, self-assessed health status, educational attainment, perceived level of community safety, labour force status and access to employment services. Data indicative of the extent and nature of Indigenous cultural links and social networks are also collected. Information on income supplements associated with Community Development Employment Projects (CDEP) is available from DEWR. DEWR publishes counts of commencements and program outcomes for the various employment programs it administers, coded by Indigenous status. In South Australia, school enrolment data for Indigenous children can be extracted from the twice-yearly Student Enrolment Census, conducted by the SA Department of Education and Children's Services. This collects information about all pupils enrolled in South Australian government schools, including data on Indigenous status, school location, postcode of usual residence and absenteeism. Similar enrolment censuses with Indigenous status may be collected by other states and territories.

As a result of recommendations made as part of the Royal Commission into Aboriginal Deaths in Custody, a National Police Custody Survey is conducted by the Australian Institute of Criminology (AIC) on an irregular basis (most recently in 2002). This survey collects information about all persons held in police custody at any point during a given reference month, including Indigenous status. While data are generally only published at the state/territory level, information in respect of specific police stations may also be available.

Information on Indigenous health is available from the ABS NHS and from individual federal and state health departments. Much of this information is coordinated nationally by AIHW, however data are generally only published at the Australian or state level. The NHS collects information about the prevalence of long-term health conditions and various health risk factors. The availability of Indigenous information from this source has previously been limited by the relatively small size of the Indigenous sample included in the survey. In 2001, an Indigenous Health Survey was run in conjunction with the NHS in order to expand the availability of information on Indigenous health. A similar survey is currently being conducted in conjunction with the 2004–05 NHS, and will be repeated every six years. Despite the expanded Indigenous sample afforded by the Indigenous Health Survey, data will primarily only be available for ABS Remoteness Areas. Hospital separation statistics by Indigenous status and cause can be provided by most state health departments for individual health service areas, while the Australian Government Department of Health and Ageing (DoHA) compiles small area information

5.3.2 Rural and regional quality of life *continued*

The Indigenous population continued

on the incidence of a wide range of communicable diseases, classified by Indigenous status. Through the compulsory registration system, small area information on Indigenous births and deaths is available (this is compiled nationally by the ABS); however, the quality of Indigenous coding varies across the state and territories, and as a result it is suspected that the identification of Indigenous births and deaths may currently be incomplete. The ABS also holds information, sourced from state and territory registrars, on perinatal deaths classified according to the mother's Indigenous status. Subject to confidentiality provisions this is also available at a small area level.

Additional information relating to the health of Indigenous children in Western Australia is available from the WA Aboriginal Child Health Survey, conducted by the Telethon Institute for Child Health Research. This includes a range of physical health measures and information about the use of health services. Selected data are available for individual ATSI regions.

The ABS Community Housing and Infrastructure Needs Survey collects details of the current housing stock, management practices and financial operations of Indigenous organisations that provide housing to Aboriginal and Torres Strait Islander people. Information about the range of infrastructure and facilities available in Indigenous communities, including water, electricity and education services, is also available.

13 SUMMARY OF AVAILABLE DATA RELATING TO INDIGENOUS POPULATIONS IN RURAL AND REGIONAL AREAS

Type of measure	Agency	Source/description	AVAILABILITY	
			Geography	Frequency
Population	ABS	Population Census	CD	Every 5 years
		Indigenous population estimates	SLA (census years),	Every 5 years
Education	SA Dept of Education and Children's Services	Student Enrolment Census	Postcode (SA only)	Biannual
Health	ABS	National Health Survey (Indigenous 'Vitals' collections (but see text))	Remoteness areas SLA (selected)	See text Annual
	Australian Government and state health depts/AIHW	Various data indicative of health status and practices	Health service areas	Various
	Telethon Institute for Child Health Research	Western Australian Aboriginal Child Health Survey	ATSI regions in WA	Once-off
Housing	ABS	Community Housing and Infrastructure Needs Survey	Indigenous communities	Irregular
Employment	FaCS	CDEP-related income supplement	Postcode (selected)	Ongoing
	DEWR	Employment program commencements and outcomes	DEWR labour market regions	Ongoing
Crime	AIC	Police Custody Survey	Individual police stations	Irregular
General	ABS	Population Census	CD	Every 5 years
		Indigenous Social Survey	Broad regions	Every 6 years

5.3.2 Rural and regional quality of life *continued*

Regional youth

There are few data sources designed specifically to provide information about young people who reside in rural and regional areas. Despite this, the majority of the population-related regional data sources mentioned in this Chapter include an age variable, making it theoretically possible to derive separate information for younger people from these sources. The main issue with respect to regional sources of youth-related data is therefore not so much the availability of age coded information, but rather whether sampling methodologies are sufficiently robust to allow the disaggregation of regional information into specific age categories.

The Population Census collects a wide range of socioeconomic information about regional youth including labour force status, individual and household income, educational status and attainment, and family and dwelling type. Small area estimates of the population, disaggregated by age, are also produced annually by the ABS.

A range of information on the health of young people is available from the ABS NHS, AIHW and individual state health departments, however in many cases data are only published at the state level or for larger regions (e.g. capital city/rest of state or ABS remoteness areas) and may only be available relatively infrequently. Examples of the type of regional data available are hospital separations by cause (AIHW) and health related behaviours (NHS and selected state health departments). As noted in Chapter 4, youth suicide is a specific area of concern for rural and regional researchers and policy makers. Regional suicide rates can be derived on an annual basis from ABS cause of death statistics, in most cases at the Statistical Subdivision (SSD) level.

The annual ABS Survey of Education and Work provides data about young people's participation in education, the transition from education to work, and unmet educational demand for selected SRs.

Older persons

The issues raised in the previous section regarding regional youth are also largely applicable to the analysis of aged populations in rural and regional areas – age coded data are available from many regional data sources, however in many cases sample sizes are not of sufficient size to provide age coded data for small regions.

The Population Census provides a range of socioeconomic data disaggregated by age, including details of household income, tenure type and living arrangements. Population estimates by age are also available annually from the ABS at the SLA level.

A key source of health-related information about older persons is the five-yearly ABS Survey of Disability, Ageing and Carers, however the value of this source in respect of regional analysis is limited given that estimates are generally only available at a relatively broad geographic level (i.e. selected SRs). Data collected include details of the extent to which assistance is required for a variety of day-to-day activities, involvement in community and social activities, and use of public transport.

5.3.2 Rural and regional quality of life *continued*

Older persons continued

Health-related regional information on older persons is also available from individual state health departments and from AIHW. Available information includes hospital separations by cause, prevalence of specific conditions, use of specific health and aged care services, and health-related behaviours. The ABS NHS, conducted every three years, provides additional data on the prevalence of long-term health conditions and health risk factors for older persons in regional areas. The HACC MDS, maintained by AIHW, holds information collected from community care service providers (including providers of age care services) about persons utilising these services, and about the types of services provided. Testing is currently underway on new Population Census questions on informal care. Subject to the development and subsequent endorsement of suitable data items, such questions could potentially be included in future censuses.

Population projections are an important data source for rural and regional policy makers and researchers with an interest in older Australians as they provide some indication of the expected future size of the aged population in specific areas. Planning agencies in most states have released population projections by age and sex, in some cases for areas as small as census CDs, however, as previously mentioned, the methodology used and the frequency with which projections are updated tends to vary quite considerably from state to state. Population projections for areas as small as CDs are also available on request from the ABS.

Women

There are many surveys from which data on women can be drawn. Most of the socioeconomic data currently available for rural and regional areas is coded by sex, however questions relating to specific women's issues are less likely to be included in general surveys.

Women's health is one area where a range of specialised data do exist. The ABS NHS provides information about the current (self-assessed) health status of regional women using a range of different scales and also collects data about health-related behaviours, such as nutrition and exercise habits and visits to various types of health facility. The NHS also includes questions focusing on specific women's health issues, including breast and cervical cancer screening practices, contraceptive/protective behaviours, Hormone Replacement Therapy, and breast-feeding history. A range of information relating to the health of women in regional areas is also available from individual state health departments and from AIHW. The Australian Longitudinal Survey of Women's Health, being conducted by the University of Newcastle on behalf of DoHA, is another source of regional information on women's health. This Australia-wide survey collects information on a range of women's health and health-related issues including general wellbeing, weight and exercise, health behaviours, time use, social support and health care utilisation. Data from this survey are, however, likely to be only made available for relatively large regions.

5.3.2 Rural and regional quality of life *continued*

Women continued

A key component of the various farm surveys conducted by ABARE is the collection of information about the division of labour in farm families. A range of data about off-farm work is collected. This includes information about the nature of the work undertaken (on and off-farm), hours of employment, and measures of the respective contributions of on and off-farm work to total farm income. Information is generally available for individual broadacre regions.

As part of its role in the implementation and monitoring of the 1998 National Plan for Women in Agriculture and Resource Management (A Vision for Change), the Primary Industries Standing Committee (chaired by the Department of Agriculture, Fisheries and Forestry (AFFA)) coordinates the collection of information relating to women's membership on rural committees and programs. Aggregated information is published on an annual basis at the national and state level.

Persons with a disability

Various data sources relevant to disability in regions are mentioned in this Chapter under 'Health' and 'Older persons'. Chief amongst these is the CSTDA NMDS, a data source maintained by AIHW. This collection covers all disability support services either funded or directly provided under the umbrella of the CSTDA. Data are collected by the key public health agencies in each state and territory, using nationally agreed standards and definitions, and subsequently collated and analysed by the AIHW. A range of data are collected about service outlets and the users of these services. For individual outlets this includes, location, type of services provided, hours of operation and staff and patient numbers. For service users information including Indigenous status, postcode of residence, living arrangements, disability group, support needs, and existing caring arrangements are collected. Previously, information included in the CSTDA NMDS referred only to one specific 'snapshot day' in a given year, however following its 2002 redevelopment, data available from this source now in most cases relate to service provision and usage across a full 12-month period. While information from this source is generally published only at the state level, data for individual health agency planning regions within states are in most cases also available.

The HACC MDS is a similar database maintained by AIHW which holds information about services provided by Australian Government and state/territory health agencies through the HACC Program. This provides services to older persons and persons with a disability who require support to remain at home. A range of information about the characteristics and circumstances of people assisted through the HACC Program, and the extent and nature of assistance they receive is collected. As in the case of the CSTDA NMDS, data from this source are generally published at the national and state level only, but are theoretically available for selected smaller regions.

5.3.2 Rural and regional quality of life *continued*

Persons with a disability continued

The key ABS data source relating to disability is the five-yearly Survey of Disability, Ageing and Carers. This survey provides information on people with disabilities, and people who provide assistance to others with disabilities. This includes information on the type and severity of disability, the difficulty people with disabilities have with everyday activities, the assistance they need, their sources of assistance, extent of unmet need, and restrictions on schooling and employment. Information on social and community participation is also collected. While data from this source are generally only available for broad regions (i.e. selected Statistical Regions), the ABS has undertaken statistical modelling of results from this survey to produce small area estimators of disability. These provide estimates of the proportion of persons in private dwellings with disabilities, classified by degree of severity, at the SLA level. The ABS NHS, conducted every three years, provides additional data on the prevalence of long-term health conditions, including physical and mental disability. Testing is currently underway on new Population Census questions on disability, including data items on need for assistance and informal care. Subject to the development and subsequent endorsement of suitable data items, such questions could potentially be included in future censuses.

Additional information about disability in regions may also be available from Centrelink, using data collected through the administration of Disability Support Pension payments. DEWR identify various 'equity groups' in the employment program data they publish, including persons with a disability.

5.3.3 Rural and regional community strength

As discussed in Chapter 4, it has only been relatively recently that attempts have been made to measure some elements of community strength, particularly social capital. Hence, there are currently few data sources able to provide information about regional community strength across Australia.

The data sources discussed in this section have been categorised as follows:

- data sources that indicate human capital
- data sources that indicate social capital
- data sources about regional information networks.

HUMAN CAPITAL

As a measure of 'the capacity of people to contribute to the community' (FaCS, 2001), human capital may be assessed using data from a range of sources. As discussed in section 5.3.1, the ABS regularly produces regional population estimates and projections based on data from the most recent Population Census, providing researchers and policy makers with details of the current, and likely future, structure of specific regional populations. On a five-yearly basis the census also provides a range of data in respect of the qualifications and skills of the population residing in specific regions. This includes details of current education status (including whether the person is currently enrolled in a university or Technical and Further Education (TAFE) course), highest level of schooling completed and level and subject of highest post-school qualification (including trade certificate).

5.3.3 *Rural and regional
community strength
continued*

HUMAN CAPITAL *continued*

NCVER conducts regular studies of vocational education providers, programs and participants. On an annual basis data are collected from training providers in respect of course enrolments and student characteristics. Data on apprentices and trainees are reported quarterly by training providers and consolidated annually. In addition, NCVER conducts an annual Student Outcomes Survey which gathers information directly from those enrolled in vocational education, including details of demographic characteristics, reasons for undertaking training and study aspirations. Data are generally published for broad regions (capital city, other metro, rural, remote), however it is possible that in future data for smaller regions may be made available. The ABS Survey of Education and Work collects data on qualifications and current educational involvement on an annual basis, but data from this source are generally only available for broad regions (e.g. SRs in larger states and capital city/rest of state regions in smaller states). School retention rates and literacy and numeracy measures are available from most state/territory education departments, although in some cases this information may only be released for relatively large regions. These agencies may also be able to provide regional data on enrolments in publicly administered education and training facilities and programs, although such information may be of limited use in terms of measuring regional human capital given that place of education and region of usual residence may be different.

As discussed in Chapter 4, employment data may also be indicative of the level of human capital that exists in specific regions. Sources of regional employment data were discussed in detail in section 5.3.2. The ABS LFS provides monthly estimates of employment, unemployment and underemployment at the SR level. Information about work-related training is also collected on an irregular basis. Basic measures of unemployment and labour force size are also available for areas as small as SLAs from DEWR. The census asks every person aged 15 years and over to provide a range of details about their employment status in the week prior to the census, including full and part-time employment and labour force participation. In the case of both the census and the LFS, details of occupation and industry of employment are also collected. As discussed in Chapter 4, such information is useful in the construction of job profiles, which may afford an expanded understanding of the skills that are likely to be found in a region. Regional estimates of the total number of wage and salary earners, and of wage and salary income, are produced by the ABS using data provided by the ATO. Information on employment-related income is also available for larger regions from the LFS. When combined with occupation and labour force data from these and other sources such as the census, estimates of human capital based on derived measures such as lifetime labour income can be produced.

Sources of data relating to the health status of rural and regional residents are discussed in section 5.3.2. A range of such sources is available including, in particular, the various data sets maintained by AIHW and the respective state/territory health departments.

As discussed in earlier sections on rural and regional services, selected data in respect of publicly funded regional education and training infrastructure are available from state/territory education departments.

14 SUMMARY OF AVAILABLE DATA RELATING TO HUMAN CAPITAL IN RURAL AND REGIONAL AREAS

Type of measure	Agency	Source/description	AVAILABILITY	
			Geography	Frequency
Demographics	ABS	Population Census	CD	Every 5 years
		Small area population estimates/projections	SLA (estimates/ Part of state (projections))	Annual (estimates), Every 2–3 years (projections)
Labour force	ABS	Labour Force Survey	SR	Monthly
		Population Census	CD	Every 5 years
		Wage and salary earner data (ATO)	SLA	Annual
	DEWR	Small Area Labour Market Series	SLA	Quarterly
Education and skills	ABS	Population Census	CD	Every 5 years
		Survey of Education and Work	SR (selected)	Annual
	NCVER	Various surveys of vocational training providers and students	Broad regions (see text)	Various
	(Selected) state/territory education depts	Literacy and numeracy measures, apparent retention rates, enrolments data	Various	Annual
Health	SEE PREVIOUS SECTION ON HEALTH (table 10)			
Training infrastructure	SEE PREVIOUS SECTION ON SERVICE AVAILABILITY/ACCESSIBILITY (table 7)			

5.3.3 Rural and regional community strength
continued

SOCIAL CAPITAL

As noted in Chapter 4, it is only relatively recently that attempts have been made to develop specific measures of social capital, and there continues to be debate about how this should best be defined. In February 2004, the ABS released an Information Paper which sets out a framework for social capital (ABS, 2004f). This identifies the separate elements that comprise social capital, the relationships between these elements and a set of proposed statistical indicators. While it may be relatively easy to identify the various social networks that exist in regional areas, assessing the quality of such networks and their effectiveness in promoting community strength is often more difficult.

The Population Census is a useful source of information on social capital in regional Australia, providing data about household type and size, and consequently an indication of the extent to which family networks exist in a particular region. The census also asks if people lived at the same address one year ago and five years ago. In the 2006 Census, there will be questions on unpaid work, including voluntary work.

Information about the number of specific types of community and sporting groups is likely to be available from relevant state and national administrative bodies. For example, details of the location of non-profit community organisations such as APEX, Rotary and Lions Club are available from the respective national offices, while national and state sporting organisations are able to provide information about registered sporting teams. Increasingly, local governments and state/territory agencies are also able to provide i

5.3.3 *Rural and regional
community strength
continued*

SOCIAL CAPITAL *continued*

Information about the community and voluntary organisations that exist in specific regions. Information on the number and nature of regional community organisations may be collected through formal registration procedures or as part of tourist promotion activity and may be released through published community services directories (e.g. the Tasmanian Index of Community Organisations) or be otherwise available in administrative data holdings. The continued growth in use of the Internet and proliferation of computer programming skills means that a large number of both formal and informal community organisations now have a dedicated web page. Consequently advanced Internet research and analysis may also provide an improved understanding of the range of community organisations that exist in a region. Government agencies in each state responsible for licensing and gambling hold details of the number of hotels, taverns, clubs and bars in specific regions.

The ABS Time Use Survey measures the amount of time individuals spend on a range of activities, including voluntary activities, socialising and other forms of community participation. Data are also collected about activities undertaken with other people. However, information from this survey can generally only be provided at the capital city/rest of state level. The Survey of Disability, Ageing and Carers collects information about participation in social and community activities by older persons and disabled persons, but again such information is only available for broad regions. Details of individual involvement in a range of culture and leisure activities is also collected on a regular basis by the ABS for broad regions.

The ABS General Social Survey (GSS) is an important source of information on social participation, measuring the extent and nature of respondents' social and community networks, however information is only available at the capital city/rest of state level. The next GSS, to be conducted in 2005–06, will contain an expanded number of questions relating to social capital. Since 2001, the Victorian Population Health Survey, administered by the Victorian Department of Human Services, has collected data measuring the extent of respondents' social and family networks and their level of participation in social and community activities. Data are published primarily at the part of state level (Melbourne/rest of Victoria) however they may also be available for individual Department of Human Services regions. Data in respect of participation in local elections are available from electoral agencies/commissions in each state and territory.

As discussed in Chapter 4, feelings of support, trust and safety are generally considered to be a key element in the development of social capital. In recent times a relatively large number of attitudinal surveys have been conducted both internationally and within Australia to collect this kind of information, however, reflective of the ongoing definitional debate surrounding social capital, there has tended to be a lack of consistency in questions used. Also, as a result of the logistical and cost issues associated with the administration of sample surveys, there are currently few sources able to provide information for smaller regions or across different regions. The ABS GSS asks respondents about feelings of safety in the home and about levels of support available in times of crisis, however, as previously mentioned, data are generally only available at the capital city/rest of state level. Similar data are available for regions in Victoria from the

5.3.3 Rural and regional community strength continued

SOCIAL CAPITAL continued

Victorian Population Health Survey, which also asks questions on a range of other topics related to social capital such as feelings of safety, trust in others and tolerance of diversity.

Data indicative of the incidence of crime may be a useful in identifying regions where levels of social capital may be particularly low. Such data are available from state police departments and from state government agencies responsible for crime and justice. Available data generally include details of the number of offences by type in specific regions. A range of data indicative of the prevalence of crime are also available from the AIC at the SLA level. In New South Wales and Tasmania the ABS has previously conducted a Crime and Safety Survey which asks respondents how threatened they feel by crime in their community and about their perceptions of the risk of becoming a victim of crime. Information from these surveys can be provided for larger regions in the respective states. In addition to the crime and safety surveys conducted in New South Wales and Tasmania, a similar national survey is also conducted by the ABS every three years, however data are generally only available at the capital city/rest of state level.

15 SUMMARY OF AVAILABLE DATA RELATING TO SOCIAL CAPITAL IN RURAL AND REGIONAL AREAS

			AVAILABILITY	
Type of measure	Agency	Source/description	Geography	Frequency
Family/household	ABS	Population Census	CD	Every 5 years
Community	ABS	Survey of Disability, Ageing and Carers	SR (selected)	Every 5 years
		Survey of Work in Selected Culture/Leisure Activities	SR (selected)	Every 4–5 years
	Victorian Dept of Human Services	Victorian Population Health Survey	Victorian Dept of Human Services regions	Annual
	State licensing agencies	Number of pubs, clubs etc.	Various	Ongoing
	Selected non-profit community associations	Number of APEX, Rotary and Lions Clubs	Location	Ongoing
	Selected state government agencies/local governments	Administrative data in respect of number and nature of selected community organisations	Various	Various
Trust/safety	ABS	Crime and Safety Survey	SR (NSW and Tas.)	Every 3 years (national), Intervening years (NSW), Once-off (Tas.)
		Victorian Dept of Human Services	Victorian Population Health Survey	Victorian Dept of Human Services regions
	State police depts	Incidence of crime by type	Various	Ongoing
	AIC	Number of offences by type	SLA	Annual

5.3.3 Rural and regional community strength
continued

INFORMATION AND COMMUNICATION NETWORKS

Currently available data about regional information networks focus predominantly on the availability and use of information technology. The Population Census counts the number of households with access to a computer and the Internet. Data relating to the use of information technology by Indigenous Australians are available from the Indigenous Social Survey, although this particular survey provides estimates only for relatively large regions. The GSS and the Survey of Education, Training and Information Technology are separate surveys conducted every four years by the ABS which include a range of questions relating to use of, and access to, various forms of information technology. However, in the case of both surveys data are generally only available at the capital city/rest of state level. The ABS Internet Activity Survey previously provided information on numbers of registered Internet subscribers at the Statistical Division (SD) level (data are collected directly from Internet Service Providers). However, changes in the structure of the industry and the spread of broadband technology have made it increasingly difficult to accurately determine the physical location of Internet subscribers from this survey. As such it is likely that in future only state/territory level estimates will be made available. A state supplementary survey conducted by the ABS in Queensland during October 2003 collected information about household telephone connections and individual access to fixed telephone connections and mobile phones. Data from this survey are available at the SR level.

The ABS also collects information about business access to and use of computers via a variety of industry surveys. In most cases data cannot be provided for specific regions (other than a metro/ex-metro split) due to sampling constraints, however an exception to this is the Agriculture Survey which, on an irregular basis, includes questions about use of information technology by farm businesses. Data about business use of information technology are also available from the ABS Characteristics of Small Business Survey. While no sub-state data are currently available from this survey, it is planned that estimates for individual SRs will be released in future.

16 SUMMARY OF AVAILABLE DATA RELATING TO INFORMATION NETWORKS IN RURAL AND REGIONAL AREAS

Type of measure	Agency	Source/description	AVAILABILITY	
			Geography	Frequency
Households	ABS	Population Census	CD	Every 5 years
		Internet Activity Survey	SD - but see text	Biannual
		Indigenous Social Survey	ATSIC regions (selected)	Every 6 years
		Household Telephone Connections Survey	SR (Qld)	Once-off
Business	ABS	Agriculture Survey	SD	Annual, but Information Communications Technology (ICT) use included irregularly

5.3.4 Rural and regional economic growth

As discussed in Chapter 4, decision makers require information to assess the effects of economic restructuring on regions and the impact of compensatory and other structural adjustment packages. These information needs on the economic growth of regions have been categorised as follows:

- data sources about the structure of economies
- data sources about the performance of economies
- data sources about economic links
- data sources about barriers to economic growth.

STRUCTURE

Data sources indicative of overall levels of employment and unemployment in rural and regional areas were discussed in section 5.3.2 in the context of regional labour force characteristics. This includes sources such as the ABS LFS, which provides regularly updated regional estimates of employment and unemployment, and the DEWR Small Area Labour Market Series, which provides estimates of unemployment and labour force size at the SLA level. Sources of regional employment/unemployment counts such as the Population Census, ATO wage and salary earner statistics, Centrelink data and DEWR employment program data were also discussed. The LFS and the census also provide employment data by industry for rural and regional areas, providing an indication of the structure of rural and regional economies. BTRE have recently published a report which utilise census employment data to derive measures of industrial diversity in specific BTRE labour market regions (BTRE, 2003a). Information about employment in regional small businesses (businesses with less than 20 employees) may in the near future become available from the ABS Characteristics of Small Business Survey. Data from this survey are currently provided at the state level only, however there are plans to also release data for specific SRs. While data are not coded by industry, an overall indication of the relative importance of small businesses to specific regions could be determined. Testing is also underway on new Population Census questions to more effectively identify persons working in their own incorporated enterprise (who previously may have been coded as wage and salary earners) and about the number of persons they employ. Subject to the development and subsequent endorsement of suitable data items, such questions could potentially be included in future censuses, providing an improved insight into small businesses in regions.

The ABS conducts a wide range of surveys focusing on specific sectors of the economy. Such surveys include questions on income and expenditure from which it is possible to gauge the relative importance of particular types of industry, however only a relatively small number of these can provide data below the state level. In addition, many ABS surveys of this nature are conducted at the management unit level, rather than at the establishment unit level, meaning that for multi-location businesses data in respect of all business locations will be combined. The annual ABS Mining and Utilities Collection provides a range of financial information about mining and utility businesses at the SR level. A large amount of data on the mining sector is also available from the Register of Australian Mining, an annual publication produced by the Resource Information Unit (RIU). The ABS Manufacturing Census/Survey provides financial data for the manufacturing sector on a five-yearly basis for selected SLAs, and for selected SRs in other years.

5.3.4 *Rural and regional economic growth continued*

The agricultural sector is covered by the five-yearly Agricultural Census, from which information is generally available at the SLA level, and the Agricultural Survey, conducted in years when there is no Agricultural Census and from which information is available at the SD level. A range of financial and other information about Australian farms is also collected on an annual basis by ABARE. Much of this information is made available for specific broadacre regions, however because the location of each farm included in these surveys is geocoded, data may also be available for smaller regions.

Data indicative of the contribution of tourism to regional economies are available from the ABS Survey of Tourist Accommodation, a quarterly survey that collects a range of information from hotels, guest houses and serviced apartments (where the hotel, guest house or apartment complex has five or more rooms). The scope of future Tourist Accommodation Surveys has also recently been expanded to include caravan parks, visitor hostels and holiday flats. Data collected include details of average takings per establishment, and are generally available at the SLA level. Additional data on regional tourism are available from the International and National Visitor Surveys conducted by Tourism Research Australia (TRA) (formerly Bureau of Tourism Research (BTR)) for individual Tourism Regions. TRA also produces estimates of total tourism-related expenditure in regions by modelling results from these two surveys. Tourism agencies in some states and territories conduct visitor and operator surveys on a regular basis designed to provide information on the performance of the tourism sector. While most are designed primarily to provide state level data, information for individual tourism regions may in some cases also be available (e.g. Queensland Regional Tourism Activity Monitor, Northern Territory Travel Monitor, Tasmanian Visitors Survey).

The ATO's Australian Business Register (ABR) stores a range of information about individual businesses in Australia, including details of location and type of industry. However, as a source of information on business in rural and regional areas the ABR has limitations. One of these is that address details for individual establishments that form part of large multi-location businesses are generally not recorded, and in some cases the recorded address on the ABR is that of the business owner or tax agent/accountant rather than the actual business location. Also, while employment information is recorded, this is not a measure of total employment in specific businesses, rather it is a measure of the number of individuals who have worked for a business during the previous financial year. As a result of these issues, the amount of data available from the ABR about regional businesses is somewhat limited, however subject to further investigation and development counts of single location businesses by industry in specific regions, and an indication of employment in these businesses (subject to the limitations discussed), could theoretically be provided.

As discussed in Chapter 4, journey to work information may be indicative of the structure of regional economies, providing information about the nature of regional labour markets. Journey to work information can be derived from the Population Census by cross-classifying usual residence and job location data.

17 SUMMARY OF AVAILABLE DATA RELATING TO THE STRUCTURE OF RURAL AND REGIONAL ECONOMIES

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Employment - general	SEE PREVIOUS SECTION ON LABOUR FORCE CHARACTERISTICS			
Employment by industry	ABS	Labour Force Survey	SR	Monthly
		Population Census	CD	Every 5 years
		Characteristics of Small Business Survey	State at present (but see text)	Annual
	ATO	Australian Business Register	Postcode (but see text)	Ongoing
Number of businesses and/or turnover	ABS	Industry surveys (various - see text)	Various	Various
		Survey of Tourist Accommodation	SLA	Quarterly
	ATO	Australian Business Register	Postcode (but see text)	Ongoing
	ABARE	Various farm surveys	Broadacre region	Annual
	Tourism Research Australia	International and National Visitor Surveys	Tourism region	Quarterly
Journey to work	ABS	Population Census	CD	Every 5 years

5.3.4 Rural and regional economic growth *continued*

PERFORMANCE

While a range of information is available about particular industries in specific regions, there are very few sources that provide a consolidated measure of overall regional economic performance. The general absence of a regional equivalent to National and State Accounts is reflective of a range of factors including the fact that business information must be drawn from a wide range of different sources, which may not necessarily be complementary, and the fact that the required information might simply not be available at a regional level. Research agencies in various states have previously produced estimates of regional gross product, however this has generally been done on a once-off basis for specific case studies using 'best available' data, resulting in estimates with varying degrees of accuracy and reliability. An exception to this is the Queensland OESR which publishes gross regional product estimates for SDs in Queensland on a regular basis by modelling state and SD economic data (sourced predominantly from the ABS).

As noted in the previous section, a range of sources exists which provide production and financial information about businesses in regional areas. This includes ABS industry surveys such as the Manufacturing Census/Survey and the Agricultural Census, in addition to data sourced from federal and state government research agencies such as TRA and ABARE. Most state tourism agencies hold a range of data indicative of the growth and performance of the tourism industry, some of which are available at a regional level. Nationally, much of this information is coordinated by Tourism Research Australia (formerly BTR). The Western Australian Tourism Commission has established a Tourism Development Register which records information about all tourism-related

5.3.4 *Rural and regional economic growth continued*

PERFORMANCE *continued*

developments that have occurred in regions during specific periods. Additional information on the turnover of regional businesses involved in tourism is available from the quarterly ABS Survey of Tourist Accommodation. The annual ABS Mining and Utilities Collection provides a range of financial information about mining and utility businesses at the SR level. The Western Australia Department of Mineral and Petroleum Resources publishes a range of regional data relating to the financial performance of the resources sector in Western Australia, while data on mining production for individual mine sites can be obtained from the RIU.

Another significant source of data on regional economic performance is the ABS Local Government Finance Collection. This quantifies the extent of local government investment and expenditure in specific regions, including expenditure on capital projects and infrastructure. Other data indicative of regional investment can be sourced from the ABS Building Statistics Collections, which provide small area information on the value of approvals of public and private sector construction and alteration of residential and non-residential property, and from individual state valuation agencies, which can provide information on regional property sales.

Employment data are also a key indicator of regional economic performance, given that low levels of unemployment may be associated with economic growth. Primary sources of regional labour force data were discussed in section 5.3.2 and include the Population Census, the LFS, and the small area labour markets data and employment program monitoring data available from DEWR. Data on new motor vehicle registrations have previously been used as an indicator of the economic health of particular regions. While this information is no longer collected by the ABS, a potential substitute is data on new motor vehicle sales sourced from the FCAI.

18 SUMMARY OF AVAILABLE DATA RELATING TO THE PERFORMANCE OF RURAL AND REGIONAL ECONOMIES

Type of measure	Agency	Source/description	AVAILABILITY	
			Geography	Frequency
Regional gross product/turnover	ABS	Industry surveys	Various	Various
		(various - see text)		
		Local government finance	LGA	Annual
	Experimental regional small business statistics	SD (selected)	Irregular	
	ABARE	Various farm surveys	Broadacre region	Annual
Employment/unemployment	SEE PREVIOUS SECTION ON LABOUR FORCE CHARACTERISTICS			
Investment	ABS	Buildings statistics	CD	Monthly
		Local government finance	LGA	Annual
	State valuation agencies	Total and average housing prices	LGA (postcode data may also be available in some states)	Quarterly

5.3.4 Rural and regional economic growth *continued*

LINKS

Information about regional income and labour markets is an indicator of regional economic links. Census journey to work information provides an indication of the extent to which people live in one region and derive income from work in another, via the analysis of place of residence and place of work data.

Information about regional trade is an important measure of the economic links that exist between regions, however there are few sources of regional trade data currently available. The ABS Freight Movements Survey, last conducted for the twelve months ended 31 March 2001, was a survey of registered freight operators (road, rail, sea and air) that collects information about freight movements classified by commodity, tonnage and SD of origin and destination. The limited number of freight companies in operation, particularly in the rail and air freight markets, has restricted the level of detail that can be released by the ABS from this source (while still maintaining respondent confidentiality). Data about regional transport movements have also been collected by state transport departments. The ABS has previously produced experimental estimates of merchandise exports for three regions in Queensland (Mackay, Central Highlands and Bundaberg) (ABS, 2001b). These estimates are based on a methodology that identifies the significant industries within each region, using regional industry data, and then identifies the extent and nature of commodity export patterns associated with these industries using a range of ABS and non-ABS information. A similar methodology could theoretically be applied in the case of other regions with relatively narrow economic bases and clearly established export patterns.

5.3.4 *Rural and regional economic growth continued*

LINKS *continued*

By identifying the origin of goods imported to specific regions and the destination of goods exported by regional producers, regional trade data form a key component of regional input-output tables. Regional input-output tables have been modelled by a number of bodies, including academic institutions such as Monash University, La Trobe University and the Economic Research Centre at the University of Western Australia, and specialised private sector research agencies. Regional input-output tables for Queensland regions have also been produced by the Queensland OESR. The methodology used to construct such tables tends to vary from organisation to organisation. In addition to trade data, an essential component of input-output tables is estimates of production and consumption for each sector of the regional economy (including the individuals and families who reside and work in the region and government authorities that provide services and funding to the region). As mentioned previously under 'Performance', information on production and turnover for selected industries is potentially available from a variety of sources, however in many cases data may only be available for relatively large regions, or at the management unit level (rather than for individual establishments). Sources of information on private consumption were briefly mentioned in earlier sections on rural and regional services and rural and regional economic wellbeing. Again, the general lack of frequently updated small area information of this nature challenges the development of input-output models for regions. Government expenditure in specific regions can however be measured by ABS local government finance statistics and via information from state grants commissions.

BARRIERS

The primary barriers to regional economic growth identified in Chapter 4 were the availability of a suitably skilled labour force, the absence or poor quality of existing infrastructure (particularly related to transport and communication), lack of innovation, and environmental barriers such as the degradation or lack of natural resources.

Sources of information in respect of the availability and quality of regional infrastructure were highlighted in section 5.3.2. Statistical information about regional transport services, including measures of the length of various types of road in particular regions, is held by most state transport agencies. In some cases selected information on road quality may also be available. Geoscience Australia maintain various mapping data sets containing locational and basic quality information (e.g. sealed, unsealed) about regional road networks. Analysis of the specific programs funded under the Australian Government's Networking the Nation initiative may provide some indication of the nature and extent of communication networks in regional areas. Work is currently underway to evaluate the effectiveness of the program, and it can be expected that the various research reports subsequently produced will provide additional insight into the quality of regional communication networks.

As discussed in Chapter 4 measuring the nature and extent of regional labour force shortages is not straightforward. Sources of data indicative of the qualifications and skills of regional population were described in section 5.3.3 in the context of human capital. This includes the Population Census, which provides information on educational attainment for areas as small as census CDs.

5.3.4 *Rural and regional economic growth continued*

BARRIERS *continued*

The census also collects details of industry and occupation of employment, which can also indicate the skill-profile of existing regional jobs. This can also be done for broader regions using information from the ABS LFS. Analysis of these data in conjunction with information about the types of industries and occupations located in regions (from data sources discussed under 'Structure') may assist in assessing the degree to which the current and future skill needs of regional businesses can be met by the local population. Information on participation in education and training is available from state education departments, however, as discussed in section 5.3.3 this may not be particularly valuable as an indicator of regional labour force skills as place of education and region of usual residence may not be the same. Potential sources of data in respect of regional education and training infrastructure were discussed in section 5.3.2. The Australian JobSearch data base is an on-line data source maintained by DEWR that contains information about job vacancies advertised through the National Job Network. Basic counts from this source are published on a regular basis for DEWR labour market regions, while more detailed data may be available upon request. DEWR also produces a monthly Skilled Vacancies Index based on an analysis of job vacancies in a range of newspapers, however the analysis is confined to large metropolitan areas only.

As discussed in Chapter 4, information on regional investment, particularly in respect of equipment, technology and research and development, provides some indication of regional innovation. Selected industry surveys conducted by the ABS provide this type of information. For example, the Manufacturing Survey collects detailed information on expenditure by category, as does the Mining and Utilities Collection. However, in some cases it may be difficult to separately identify innovation related expenditure from day-to-day expenses associated with normal business operations or, in the case of multi-location businesses, to separately apportion such expenditure to specific locations. The ABS also conducts an annual survey of Business Research and Experimental Development, and there are plans to conduct a separate biennial Innovation Survey to collect information about the proportion and characteristics of businesses that are innovating and the types of innovations occurring. Data from these sources are however only available at the state/territory level. ABARE has previously collected data in respect of technical and other innovation (e.g. changes to herd and land management practices) on Australian farms as part of annual surveys of the agricultural sector. Data are published for specific broadacre regions. Additional information on research and innovation may also be available from state government agencies responsible for the provision of research and development funding, although such sources do not provide a comprehensive overview of investment and innovation in particular regions.

Data sources indicative of the availability and use of natural resources and ecosystem services and the nature and extent of environmental degradation in rural and regional areas are discussed in section 5.3.5. The primary sources of this type of information are federal and state government agencies responsible for environmental planning and monitoring. There are currently few data sources which provide estimates of the economic costs of environmental barriers in regional areas. Government funding data provide a measure of expenditure associated with regional environmental programs, however such information is unlikely to be indicative of the direct and indirect impacts of environmental barriers on specific regional economies.

5.3.5 *The natural environment in rural and regional areas*

NATURAL RESOURCES

Federal and state government agencies responsible for the development and administration of environmental policy are a key source of data on natural resources in rural and regional areas. The precise nature of the available data varies from state to state however regional information in respect of land and water use is generally available. In most cases water use is measured by monitoring extraction levels from rivers and groundwater sources within specific catchment areas. Information in respect of timber production from old-growth and plantation forests is also collected in most states. The National Forest Inventory, conducted by the Bureau of Rural Sciences (BRS), provides a range of additional information about regional forests and is also a key source of information on biodiversity, measuring the nature and extent of native vegetation coverage in specific 'bioregions'. These bioregions are defined on the basis of similar climate, geology and flora and fauna (NSW Environment Protection Authority, 2000).

The ABS Agricultural Census and Agricultural Survey currently provide data on land use and irrigation practices at, respectively, the SLA and SD level. Information on the total amount of land used for agricultural purposes and for specific types of agricultural activity is collected. Measures of the area of land subject to various forms of irrigation are also produced. These surveys also ask about the use of manufactured fertilisers on agricultural land. Similar information is collected by ABARE via annual surveys of the agricultural sector. In 2002–03, as part of the ABS agricultural surveys program, the Water Survey – Agricultural was conducted using a subset of farms included in the Agricultural Survey. This irregular survey asked a range of questions about the nature and extent of water use on surveyed farms; however, it is likely that information from this survey will only be published at the state level. Expanded questions on water use may also be included in future Agricultural Censuses. Most state government agencies responsible for the administration of mining collect detailed information about the extraction of mineral resources and produce estimates of the extent of existing deposits at specific regional mine sites.

The ABS has funding to conduct a biennial Natural Resources Management (NRM) Survey to produce national, state and broad regional estimates, commencing in 2005–06. The survey will be conducted using the Agricultural Survey population. Work is also proceeding on the development of a land parcel frame survey (i.e. using cadastres as the survey population) to support NRM statistics. The use of the land parcel frame will allow the output from NRM surveys to be tailored to particular regions (e.g. NAP and Natural Heritage Trust (NHT) regions, water catchments). The survey will cover both agricultural businesses and non-agricultural land owners.

A wide range of data on the availability and condition of regional natural resources is collated through the National Land and Water Resources Audit (NLWRA), a program administered by the NHT. The NLWRA was established in 1997 with the primary aim of improving the availability of data related to the management of land, water and vegetation resources. Information has been collected for the Audit using a wide range of existing administrative data sources, case studies and scientific research projects conducted by government departments (mainly state government) and research agencies, in addition to research studies conducted specifically for the purposes of the Audit. Available data include measures of land area classified by use. A range of data related to water availability and use is also held, including measures of the extent and

5.3.5 *The natural environment in rural and regional areas continued*

NATURAL RESOURCES *continued*

nature of irrigation within specific irrigation districts (of which there are 47 across Australia), and estimates of total available surface and groundwater supply in specific catchment areas. Information on the nature and extent of native vegetation coverage in rural and regional areas is also held. A searchable database containing data and additional information about selected data sources collated through the NLWRA will be made available through the Australian Natural Resources Data Library <data.brs.gov.au/asdd/index.php>.

19 SUMMARY OF AVAILABLE DATA RELATING TO NATURAL RESOURCES IN RURAL AND REGIONAL AREAS

Type of measure	Agency	Source/description	AVAILABILITY	
			Geography	Frequency
Land	ABS	Agricultural Census/Agriculture Survey	SLA (census), SD (survey)	Every 5 years (census), Annual (survey)
	ABARE	Various farm surveys	Broadacre region	Annual
	Natural Heritage Trust	National Land and Water Resources Audit	Various	Once-off
	Australian Government and state environment agencies	Measures of land area by predominant usage	Various	Various
Forests	Bureau of Rural Sciences	National Forest Inventory	Bioregion	Irregular
Water	ABS	Agricultural Census/Agriculture Survey	SLA (census), SD (survey)	Every 5 years (census), Annual (survey)
	ABARE	Various farm surveys	Broadacre region	Annual
	Natural Heritage Trust	National Land and Water Resources Audit	Irrigation district	Once-off
	Australian Government and state environment agencies	Water source levels and extraction rates	Various	Various
Minerals	State resource agencies	Mineral resource reserves	Location	Various

5.3.5 *The natural environment in rural and regional areas continued*

ENVIRONMENTAL IMPACT AND MANAGEMENT

Much of the currently available data on environmental impact and management are held by federal and state environment agencies. Information on land degradation, particularly in respect of soil salinity and acidity is generally available. This includes location specific measures of current acidity and salinity levels and, in some states, regional information on the use of corrective soil conditioners such as gypsum and lime. The risk of salinity in particular areas has also been assessed on the basis of current soil condition and the analysis of changes in groundwater levels. Data on current and predicted levels of soil erosion and estimates of land area affected by drought are also available. Most state environmental agencies also conduct ongoing monitoring of water extraction rates from river and groundwater sources, and hold data on river flow rates and groundwater quality. On a monthly basis, the Bureau of Meteorology produces maps that identify areas experiencing rainfall deficiency by level of severity.

Estimates of the land area currently affected by soil acidity and salinity, based on the aggregation of regional soil profile data, have been developed as part of the NLWRA. Estimates of salinity risk derived using available information on regional land use, groundwater levels, geology and climate, have been produced for individual catchment areas. Data about regional ground and surface water resources have also been collated, including information on water levels and quality. Additional information on land degradation is available from the ABS Land Management and Salinity Survey conducted as a supplement to the Agricultural Census. Regional estimates of the land area affected by salinity are available, in addition to data on total productive land lost and use of corrective measures. A range of data in respect of land management practices and land degradation has been collected by ABARE as part of annual surveys of the agricultural sector and via the Resource Management Survey (last conducted in 1998–99). This includes information from farmers about the nature and extent of land degradation on their holdings and application of remedial land management practices, including participation in Landcare and other Natural Heritage Trust activities.

Other sources of data relating to environmental management and programs in rural and regional areas are the ABS Agricultural Census and Environmental and Natural Resources Survey. The Agricultural Census asks farmers about various measures undertaken for conservation purposes (e.g. tree planting, erection of fencing) and about enforced changes to agricultural practices resulting from environmental issues. As part of the 2000–01 Agricultural Census farmers in Victoria were also asked questions about participation in Landcare. The Environment and Natural Resources Survey asks individual local councils about federal and state funding received for environmental purposes, and measures local government expenditure on environmental projects.

Details of the nature and cost of the various environmental programs administered by the Australian Government and by individual state governments are readily available, and via analysis of information on specific grants, some data on environment-related expenditure in specific regions can be gathered. These include information about expenditure on drought relief programs. The ABS Local Government Finance Collection provides similar information in respect of environmental expenditure within individual LGAs, although details about the specific nature of environmental programs cannot be derived from this source.

20 SUMMARY OF AVAILABLE DATA RELATING TO ENVIRONMENTAL IMPACT AND MANAGEMENT IN RURAL AND REGIONAL AREAS

<i>Type of measure</i>	<i>Agency</i>	<i>Source/description</i>	<i>AVAILABILITY</i>	
			<i>Geography</i>	<i>Frequency</i>
Land	ABS	Agricultural Census	SLA	Every 5 years
	ABARE	Various farm surveys	Broadacre region	Annual
		Measures of soil quality, erosion, salinity risk etc.	Various	Various
	Natural Heritage Trust	National Land and Water Resources Audit	Various	Once-off
Water	Australian Government and state environment agencies	Water quality, flow rates, extraction rates	Catchment area	Various
	Natural Heritage Trust	National Land and Water Resources Audit	Water management area	Irregular
Programs	ABS	Local government finance	LGA	Annual
		Environment and Natural Resources Survey	LGA	Annual
		Agricultural Census	SLA	Every 5 years
	ABARE	Resources Management Survey	Broadacre region	Irregular
	Australian Government and state environment agencies	Expenditure on environmental programs	Location	Annual

INTRODUCTION

As noted elsewhere in this IDP, there is a strong demand for expanded data availability across a range of rural and regional issues. However, current user requirements for improved rural and regional information are unlikely to be met on the basis of increased data availability alone. Appropriate data compilation, classification and dissemination methods must also be considered. Each of these plays a key role in the overall determination of 'data quality' and data suitability for research purposes.

This Chapter highlights the specific data implications relevant to statistics as applied to regional research and describes some associated recent developments that have served to enhance the quality of the data available to regional researchers and analysts.

6.1 DATA QUALITY

When utilising statistical information, a key consideration is whether available data are of sufficient quality to support the analysis being undertaken. In the context of statistical data, 'quality' encompasses a range of elements including relevance, accuracy, timeliness, accessibility, interpretability and coherence. Each of these has implications for the collection, classification and dissemination of data. Given the complexities of regional spatial infrastructure and the variety of data sources that are potentially available, quality considerations are of particular importance in regional analysis. Table 21 briefly defines the key elements of data quality and how each relates to rural and regional statistics.

21 REGIONAL DATA QUALITY ISSUES

<i>Quality element</i>	<i>Definition</i>	<i>Relevance to regional statistics</i>
Relevance	The degree to which available data meet the specific needs of users.	A wide range of regional data could theoretically be produced by regional research agencies. By identifying the topics and issues of primary importance to regional analysts and policy makers, the future statistical development activity set out in this IDP will be directly relevant to user needs.
Accuracy	The degree to which data correctly describe the phenomena they were designed to measure.	Accuracy is a key issue for regional statistics, given that regional policy parameters may be relatively broad (e.g. improving quality of life in regional communities) and may therefore rely on a range of measures, or on the use of proxy measures, to quantify otherwise complex concepts.
Timeliness	Refers to the availability of up-to-date information.	Timely data are an essential element in the development of an effective policy to address emerging regional issues. The appropriate balance between timeliness and other elements of data quality must be considered. Users of regional statistics have requested that key indicators be updated on an annual basis.
Accessibility	Data available at a cost and in a format convenient to users.	Available regional data can only contribute to informed discussion, research and decision making if they are readily accessible to users.
Interpretability	Data that can be easily understood by users and that are supported by explanatory documentation.	Of particular importance to regional statistics given the desire for composite measures, such as those designed to assess 'wellbeing' and 'economic development'.
Coherence	The degree to which data can successfully be brought together with other statistical information within a broad analytical framework.	Coherence across data collections ensures that information from various sources can be combined, such that complex regional issues might be better understood. This is of particular relevance to geographical and other classifications. Given the demand for regional time series, coherence within data collections is also important.

6.2 USE OF ADMINISTRATIVE BY-PRODUCT DATA

A large proportion of newly available regional data is sourced from administrative data sources. These contain information collected by government agencies and private service providers as part of their day-to-day administrative operations. Such sources are extremely valuable because they normally provide fairly complete coverage of specific populations (e.g. all users of a specific program/service or all residential buildings in a particular area) and are regularly updated. Many administrative data sources also capture detailed locational information as a matter of course and consequently facilitate the analysis of relatively small geographical regions (subject to confidentiality considerations). As such, the availability of administrative data potentially negates the need for special purpose surveys and enables regional analysis to be conducted across a broad range of issues at a cost significantly less, and in a more frequent and timely manner, than might otherwise be the case. Increased exploitation of administrative by-product data features strongly in the statistical development recommendations set out in Chapter 7.

While the expanded use of administrative data offers a range of potential benefits, there are various quality issues that need to be considered. These are primarily issues of accuracy, interpretability and coherence. Administrative by-product data are by definition the outcome of an administrative process the primary purpose of which is something other than the creation of statistics. Even in cases where data generation is a primary concern, information is likely to be collected for a specific purpose (e.g. to maintain the accuracy of a client mailing list). The original purpose of collection will affect the degree to which those data directly relate to the research issue being considered. For example,

6.2 USE OF
ADMINISTRATIVE
BY-PRODUCT DATA
continued

client address information may potentially be useful for plotting service catchment regions, however if the data were collected primarily for mailing purposes then post office box details rather than place of residence information are likely to be recorded in some cases. Administrative data are also unlikely to be subject to the same level of systematic checking and editing normally associated with survey data, leading to higher instances of empty or otherwise inaccurate data fields. Data from administrative sources may also utilise classification and coding frameworks unique to the collection agency, affecting the degree to which the information can be understood and manipulated by outside parties, and the degree to which information from a particular administrative source can be combined with other data.

6.3 CONSISTENCY IN
GEOGRAPHICAL CODING

The high degree of variation in regional delineation and the implications of this for the geographical classification of regional data were discussed in Chapters 1 and 4 (section 4.4). As previously noted, geographical classification infrastructure and coding practices have historically constrained regional analysis by restricting the choice of analytical regions for which data are available. Ongoing developments in georeferencing and, in particular, the implementation of mesh blocks have significant implications for the improved accessibility and coherence of regional data, by facilitating the exchange and integration of spatial information.

Georeferencing offers users of rural and regional data the flexibility to define analytical regions appropriate to their specific needs while at the same time providing a consistent and easily understood spatial reference base that allows data from different sources to be directly compared. Several factors have, however, served to limit the application of georeferencing to regional analysis. A key factor historically has been the high costs involved in developing and maintaining geocoded data sets, although it can be expected that through the ongoing development of GIS software and standardised coding facilities such costs might fall. While G-NAF allows the consistent application of geocodes to address-based data, the quality of street addressing in rural and remote areas in some states and territories is relatively poor. It may consequently be difficult to derive address-based geocodes in such areas. Confidentiality considerations are also a key factor in the use of geocoded data, since, by storing information coded to specific point locations, data for individual units (persons, households, businesses etc.) can in theory be easily isolated.

Within the ABS environment there are two major collections to which geocoding could be applied with expectations of meaningful output. These are the Census of Population and Housing and the Agricultural Census, both conducted on a five-yearly basis. Costs and the development of an appropriate methodology, particularly for the Agricultural Census, have to date been the primary restricting factors.

As discussed in Chapter 4, mesh blocks offer similar benefits in terms of flexibility and consistency to geocoding, but without compromising confidentiality. Once coded to mesh blocks, data will be available for all standard geographical regions defined in the ASGC, and will also be able to be aggregated to customised regions appropriate to specific research issues. Due to their small size (30–60 dwellings) mesh blocks will enable researchers to analyse regions considerably smaller than existing census CDs or postcodes. This includes enabling the analysis of data at the town level – a key demand expressed by analysts and policy makers during consultations on this IDP.

6.3 CONSISTENCY IN GEOGRAPHICAL CODING *continued*

While they will become the standard building block used by the ABS for data dissemination, the critical success factor for mesh blocks is the extent to which they are embraced not only by users of statistics, but also by those responsible for administrative and operational boundaries within their own jurisdictions. The widespread adoption of mesh blocks will greatly enhance regional analysis by facilitating the improved integration of spatial information. As noted in Chapter 5, the ABS will make available an address coding facility (AddressCoder@ABS) to assist other data custodians to easily code their information to mesh block boundaries. Issues regarding the quality of rural addresses will have some impact on the coding of address-based information to mesh block boundaries in more remote areas.

6.4 SMALL AREA ESTIMATION AND STATISTICAL MODELLING

As noted in Chapter 3, different users of regional data are likely to be interested in different kinds of regions. While in some cases this may lead to demand for data coded to relatively large geographical areas, the investigation of regional social, economic and environmental issues tends often to be reliant on the availability of 'small area' data. This was emphasised during user consultations on this IDP, at which a strong demand for expanded small area statistics (i.e. SSD level or lower) was expressed.

The primary source of small area data in Australia is the five-yearly Census of Population and Housing. As a complete enumeration of the population, census data are free from the sampling error that limits the ability of surveys and other sources to provide small area estimates. Various censuses are also undertaken of particular sectors of the economy (e.g. the Agricultural Census and the Manufacturing Census). Due to the high associated costs, censuses can, however, only be conducted relatively infrequently, and consequently may provide poor representation of regions that are undergoing rapid change. There are also limits to the amount of information that can be collected in any one census. As a result, census data on their own are unlikely to fully satisfy demand for regional data.

Administrative data sources were discussed in section 6.2, where it was noted that such sources often provide relatively complete coverage of specific sub-populations and, as such, are a key source of small area statistics. The quality limitations highlighted in section 6.2 may however limit the extent to which administrative data sources can fully satisfy existing demands for regional data.

A range of surveys relevant to rural and regional analysis is highlighted in Chapter 5. In comparison to data sourced from administrative systems, the relevance of survey data can be readily 'fine-tuned' through the inclusion of questions directly related to specific issues. Survey data tend also to be classified on the basis of widely recognised, well documented geographical and definitional frameworks, promoting improved integration with information from other sources. However, due to resource and methodological restrictions most sample surveys are unable to provide small area estimates within acceptable error limits. The extent to which small area data can be derived from a survey is determined primarily by the nature of the survey sample frame. Standard errors associated with survey estimates are reduced according to the size of the sample. In many cases it is simply not feasible to collect information from a sample so large that reliable estimates might be produced for geographical areas smaller than SDs. In addition, many surveys do not collect data from units in remote areas due to cost and logistical issues.

6.4 SMALL AREA ESTIMATION AND STATISTICAL MODELLING

continued

Given the limited availability of high quality small area estimates from individual censuses, administrative sources and surveys, alternative methods of regional data development must be considered. Chief amongst these is statistical modelling. Broadly, this involves deriving the unknown value of a particular variable based on assumptions about how that variable relates to other (known) measures. In the case of regional analysis statistical modelling generally involves observing the mathematical relationship between variables at a broad geographic level and making an assumption that such a relationship applies in smaller regions. Alternatively, modelling may involve updating benchmark measures for small areas from previous censuses or administrative collections based on known changes in other measures over time. In each case, the modelling process involves 'borrowing strength' from elsewhere (either from broader regions within the same collection, or from other collections) to produce estimates for regions smaller than would otherwise be possible. The quality of the final result is determined by the number and strength of the assumptions made. In the case of frequently administered surveys, modelling techniques may also be applied to combine data from consecutive time periods (e.g. consecutive months) to produce 'average' small area estimates for longer time periods (e.g. quarterly or annual measures).

As noted in Chapter 5, the ABS has undertaken statistical modelling of results from the Survey of Disability, Ageing and Carers to produce small area predictors of disability. They predict the level of disability in individual SLAs based on known characteristics of the resident population (obtained from the Population Census). The prediction can be viewed as the expected value for a 'typical' area with those characteristics.

Various agencies, including the Queensland OESR and the Centre for Sustainable Regional Communities (La Trobe University) have developed input-output models to assist improved understanding of regional economies. In both cases regional measures of economic input and output are derived by modelling national and state data on the basis of available regional employment and industry information. NATSEM undertakes a variety of regional analytical and research projects involving the application of statistical modelling. A recent NATSEM project involved the modelling of Household Expenditure Survey and Population Census data to produce synthetic household income and expenditure estimates for individual CDs. An early application of this work has been the imputation of Commonwealth Rent Assistance entitlements in specific regions to project the likely regional impacts of legislative changes to Commonwealth Rent Assistance administration (Melhuish and King, 2004).

6.5 SOME SPECIFIC RECENT DEVELOPMENTS

Earlier sections have discussed the general quality and other data issues relevant to rural and regional analysis. It is appropriate at this point to highlight some specific recent initiatives in the collation, classification and dissemination of regional data which have implications for some of the quality elements described in section 6.1.

6.5.1 *The National Statistical Service*

The National Statistical Service (NSS) is a coalition of Australian Government agencies that aims to improve the availability and quality of statistics. It is founded on the understanding that in Australia useful statistical information is collected by a wide range of agencies, but that to date this has occurred in a largely uncoordinated manner. By promoting formal cooperation between agencies, the NSS will facilitate the development and application of standards and frameworks for the collection, classification and

6.5.1 *The National Statistical Service continued*

dissemination of information. The key quality benefits will be the availability of a larger range of relevant, consistent, high quality statistics to support research and informed decision making. In particular, NSS-led improvements to the accessibility, interpretability and coherence of administrative by-product data will enable the broader application of these data in regional analysis and the combination of administrative data from a range of different sources. A web site supporting the NSS has recently been established <www.nss.gov.au>.

6.5.2 *Data linking*

One means by which regional analysis may in future be enhanced is through the linking (or 'melding') of data drawn from different collections. While consistency in geographical coding allows data from various sources to be easily drawn together to give an overview of prevailing conditions in particular regions, data linking refers to a more sophisticated process involving the combination of data for specific (or similar) units. This enables a more detailed analysis of the characteristics of regional sub-populations, and of the relationships between variables, than might otherwise be possible using data from a single source.

6.5.3 *The National Regional Profile*

The National Regional Profile (NRP) is an ABS initiative undertaken to make small area data more accessible and to facilitate the consistent quantitative measurement, evaluation and comparison of the performance of regions. The NRP is an online suite of regional indicators, sourced from ABS collections and from other selected agencies, and is available on the ABS web site <www.abs.gov.au>. The profile provides data for five years for standard Australian geographical regions, down to the SLA level. It contains regional indicators that are readily available for the whole of Australia such as population and other demographic variables, some headline economic indicators and, where possible, a selection of social and environmental data items. All of the data included in the NRP have been quality tested on the basis of the criteria set out in table 23 and are based on a common geographical framework (the Main Structure of the ASGC).

Over time the NRP will be further enhanced and expanded. Future development of the NRP will involve the incorporation of selected state and territory specific data which meet required quality standards (such as administrative data available only for selected jurisdictions) and additional functionality.

6.5.4 *Introduction of regional benchmarks in the LFS*

As discussed in Chapter 5, regional estimates of labour force status are available on a monthly basis from the LFS. Historically, these data have shown a high degree of variability over time compared to state and part of state estimates, because of the smaller sample size involved. However, recent implementation of regional benchmarks has reduced this volatility somewhat.

LFS estimates of persons employed, unemployed and not in the labour force are calculated to add up to independent estimates (or benchmarks) of the usually resident civilian population aged 15 years and over. Historically survey population benchmarks in the LFS have been classified by state/territory of usual residence, capital city/rest of state, age and sex, however from February 2004, regional benchmarks have also been introduced. Regional estimates from the LFS are now produced using a combination of state/part of state benchmarks and population benchmarks for LFS regions by sex.

6.5.4 Introduction of regional benchmarks in the LFS continued

Regional benchmarks have also been applied to produce revised regional LFS estimates for the July 1999 to February 2004 period.

Implementing regional population benchmarks has served to reduce the level of variability in regional LFS estimates without compromising the quality of estimates at the national and state level. Consequently the quality of the broad regional labour market information available from the LFS has significantly improved (ABS, 2004b).

6.5.5 ANZSIC redevelopment

The *Australian and New Zealand Standard Industrial Classification* (ANZSIC) was released in 1993. It serves as the foundation for the production and analysis of industry statistics by the ABS and is also widely used in administrative systems and other statistical databases. ANZSIC provides a standard framework in which industrial units carrying out similar activities can be grouped. These groupings facilitate standardised collection, analysis, dissemination and production of economic data on an industry basis.

To ensure that it continues to accurately reflect the structure of the economy, ANZSIC was recently reviewed and redeveloped. This redevelopment process was finalised in 2004 and the new ANZSIC will be incorporated into ABS statistics commencing with the 2006 Population Census. This work will significantly enhance industry analysis at all geographic levels by recognising new and emerging industries (for example, a new Information Industry Division has been created); updating current industry descriptions to reflect the adoption of new materials, technologies and production techniques; implementing a purer conceptual framework (a supply side, production function framework); and, providing capacity to develop alternate industry views. The ABS will undertake 'bridging' work to update selected historical data to the new classification, thus minimising the impact of the redevelopment on time series.

6.5.6 ANZSCO development

The ABS and Statistics New Zealand have developed a new standard classification of occupations, the Australian and New Zealand Standard Classification of Occupations (ANZSCO), to be released in July 2006. ANZSCO will replace the existing Australian Standard Classification of Occupation (ASCO) Second Edition. ANZSCO is intended to provide an integrated framework for storing, organising and reporting occupation-related information.

There will be a phased introduction of ANZSCO into ABS collections and publications from early 2006 onwards, including the 2006 Population Census.

CHAPTER 7

RECOMMENDATIONS FOR STATISTICAL DEVELOPMENT

7.1 INTRODUCTION

Chapter 4 presented information needs identified through user consultations, stakeholder input (including the Rural and Regional Statistics Advisory Group) and other research. Chapter 5 presented current data sources.

This Chapter proposes a series of recommendations for future statistical development to be undertaken by the ABS Regional Statistics Program in collaboration with other producers of rural and regional data. As such, they constitute a plan for how some of the most significant current rural and regional statistical information needs identified in this plan may in future be better addressed.

7.2 DEVELOPING RECOMMENDATIONS

The user consultations highlighted a variety of regional issues and both general and specific information needs. All of these issues and needs were examined to determine what specific data needs had been articulated or could be drawn from them. Specific data needs were considered against the existing data sources in Chapter 5 to determine significant gaps.

While each of the information needs identified in Chapter 4 that were not explicitly covered by the existing data sources detailed in Chapter 5 could be considered a priority, it was considered important that this plan reflects what can realistically be achieved by the ABS and others over the short to medium term and promotes the most efficient allocation of finite resources. Consequently, each of the information needs was considered on the basis of the following additional criteria:

- link to policy
 - how closely does the information need relate to the key policy issues discussed in Chapters 2 and 4?
 - level of user/stakeholder demand
- projected resource requirements
 - what investment of time and other resources are likely to be required before useful output could be delivered?
- level of cross-agency collaboration required for new development activity
 - which agencies should be involved in the development activity proposed and what would be the nature and level of input required?

7.3 RECOMMENDATIONS

The final recommendations, based on the criteria above and on input from the Rural and Regional Statistics Advisory Group, are shown in table 22. These are *Priority information needs* where:

- data development work can be undertaken by the ABS utilising existing data holdings or data readily available from other agencies

7.3 RECOMMENDATIONS

continued

- data development work can be undertaken but requires a significant level of cross-agency collaboration (including sharing of resources and data, or the collaborative development of measurement and output standards).

The remaining information needs will not be progressed in the near future. These are information needs where, in general:

- the information need has a low level of priority relative to other identified needs, based on the criteria set out in section 7.2
- the work involved is outside the scope of that usually undertaken by the ABS, however, could be progressed by other agencies
- the required supporting data or frameworks do not exist, and cannot be easily developed.

22 PRIORITY INFORMATION NEEDS

REGIONAL QUALITY OF LIFE

- (1) Improve the availability of data on regional populations and service demand, by investigating opportunities for the further development of:
- small area estimates of short and long-term population flows.
- Proposed action: Investigate the feasibility of further development of small area migration estimates, for example, through the enhancement of existing methods and the investigation of alternative data sources. Further analysis of existing permanent movement and journey-to-work information from the Population Census, and investigation of alternative sources and methods for analysis of regional journeys.
- Potential agency involvement: Medicare Australia, DIMIA, Australian Electoral Commission, state/territory planning agencies.
- (2) Improve the availability of data on regional labour force characteristics, by investigating opportunities for the further development of data on:
- characteristics of employed persons.
- Proposed action: Investigation of alternative sources of data on employed persons and development of output proposals.
- Potential agency involvement: Considerable collaboration may be required: ATO, DEWR, Centrelink.
- (3) Improve the availability of data on health status and demand for health services, by investigating opportunities for the further development of estimates of:
- morbidity
 - physical and mental disability
 - health service usage.
- Proposed action: Establish an inter-agency working party to investigate administrative data held by health service providers, support groups, pensions/benefits data, and information already collected through the Commonwealth, State and Territory Disability Agreement (CSTDA) and the Home and Community Care Minimum Data Set (HACC-MDS). The Australian Institute of Health and Welfare (AIHW) will chair this working party. ABS will also investigate statistical modelling of regional estimates from existing surveys.
- Potential agency involvement: AIHW, FaCS, Medicare Australia, DoHA, state/territory health agencies, Centrelink.
- (4) Improve the availability of data on regional economic wellbeing, by investigating opportunities for the further development of estimates of income, including:
- personal and household income and expenses
 - reliance on income support
 - economic wellbeing of farm families, including the contribution to income of off-farm work.
- Proposed action: The further exploitation and development of ATO income data, government benefits information, and alternative data sources.
- Potential agency involvement: ATO, FaCS, DEST, DEWR, ABARE.

22 PRIORITY INFORMATION NEEDS *continued*

- (5) Improve the availability of data on specific population groups in regions, by investigating opportunities for the further development of data on:
- women
 - older persons
 - youth
 - Indigenous persons.
- Proposed action: Investigate options for expanded regional analysis focusing on sub-populations, drawing together data from existing sources including FaCS, DEST, DEWR, ATO and AIHW. For example, ATO personal income tax data and income support payments may be a source of data on the incomes of older persons.
- Potential agency involvement: Considerable collaboration may be required: ATO, FaCS, DEST, DEWR, DVA, ABARE, AIHW, Australian and state/territory health and community service agencies, state/territory crime and justice agencies.

REGIONAL COMMUNITY STRENGTH

- (6) Improve the availability of data on regional human capital, by investigating opportunities for the further development of data on:
- educational participation/attainment/qualifications
 - level of skilled/unskilled employment.
- Proposed action: Further consolidation of available information from DEST, NCVER, state/territory education departments and from existing ABS sources, including the national Schools Statistics Collection, the Survey of Education and Training, the Population Census and the Labour Force Survey. This work could be assisted by information from the Industry Skills Councils.
- Potential agency involvement: Considerable collaboration may be required: NCVER, ATO, DEWR, DEST, state/territory education departments, Industry Training Advisory Boards, BTRE.
- (7) Improve the availability of data on regional social capital.
- Proposed action: Further investigation by the ABS of information available from community and voluntary organisations, and from administrative data sources maintained by the AEC and other Australian Government, state/territory and local government agencies (programs data).
- Potential agency involvement: AEC, Australian Government, state/territory and local government agencies responsible for the administration and delivery of community programs (e.g. DCITA, Department for Victorian Communities), key community, voluntary and sporting organisations (e.g. Landcare, Rotary, Lions Club).

22 PRIORITY INFORMATION NEEDS *continued*

- (8) Improve the availability of data on regional information networks, by investigating opportunities for the further development of data on :
- access to and use of information technology.
- Proposed action: Collaboration between the ABS and members of the Information Communication Technology Reference Group (ICTRG) to identify existing sources of ICT access and service usage information, and to develop proposals for expanded data availability (e.g. through modelling and further development of existing instruments/sources).
- Potential agency involvement: Considerable collaboration may be required: members of the ABS Information Communications Technology Reference Group (including DCITA, Treasury, Telstra, Australian Information Industry Association), Service Providers Industry Association Network.

REGIONAL ECONOMIC GROWTH

- (9) Improve the availability of data on the structure and performance of regional industries (including agriculture), by investigating opportunities for the further development of data on:
- number of businesses
 - type of industry
 - business size
 - business performance (e.g. sales, turnover)
 - business costs (e.g. wages).
- Proposed action: Continued investigation by the ABS of regional business data from the ATO, potentially including Business Activity Statement data, and information held on the Australian Business Register (ABR). This work may potentially be supported by mesh block coding of the ABR, the development and application by the ABS of standard business definitions and, potentially, improved information regarding small business operators from the Population Census.
- Potential agency involvement: ATO.
- (10) Improve the availability of data on the structure and performance of regional industries, by investigating opportunities for the further development of data on:
- business entries and exits.
- Proposed action: The ABS publication 'Experimental Estimates, Entries and Exits of Business Entities, Australia' (cat. no. 8160.0.55.001) is based on Australian Business Register data. It is proposed to investigate the feasibility of producing aggregated sub-state estimates from this series.

7.4 IMPLEMENTATION OF THIS IDP

The implementation of Priority Information Needs will begin in 2005–06, within the context of the Forward Work Program of the ABS Regional Statistics Program. The proposed activity of the Regional Statistics Program will vary, depending on the ability of the ABS to use existing data sources, whether further feasibility studies are indicated, and the extent of collaboration with other agencies that may be required.

The Rural and Regional Statistics Advisory Group (refer Appendix) has given in-principle support to the need for collaboration to achieve Priority Information Needs, and many of the agencies identified as potential partners in collaborative work are represented on the Advisory Group. Members have agreed to be facilitators for their respective agency negotiations with the ABS.

In some cases, the most effective method of progressing individual recommendations will be through establishing inter-agency working parties. This may be, for example, where some investigation or feasibility study is required before further input is sought from the Rural and Regional Statistics Advisory Group. Depending on the level of inter-agency involvement ultimately obtained, aspects of the implementation of some recommendations may in future be led by agencies other than the ABS where they are better positioned, in terms of expertise in a particular field.

7.5 OTHER RELATED ABS WORK

A major initiative the ABS is planning to undertake as part of its National Statistical Service activities relates to increasing the availability of regional data from administrative sources. The introduction of the mesh blocks and the AddressCoder@ABS (as discussed in earlier chapters) will be accompanied by a range of activities designed to support their use by other agencies and organisations.

Other work relevant to rural and regional information needs is planned or being undertaken by other sections in the ABS. The Rural and Regional Statistics National Centre will, as part of its ongoing work program, provide information about rural and regional information needs for consideration as appropriate.

Examples of this include:

- The ABS Living Conditions Section is developing a Housing Statistics IDP, in collaboration with the national Housing Data Agreement Management Group. This is relevant to information needs on Rural and Regional Quality of Life.
- The ABS National Centres for Ageing Statistics, Children and Youth Statistics, and Aboriginal and Torres Strait Islander Statistics undertake work relating to data on older persons, youth, and indigenous persons, respectively. This work is relevant to information needs on Rural and Regional Quality of Life.
- RRSNC will participate in the spatial data working party proposed in the National IDP for Crime and Justice Statistics (an IDP coordinated by the ABS National Centre for Crime and Justice Statistics). This is relevant to information needs on Rural and Regional Community Strength.
- The ABS Tourism Statistics National Centre works in collaboration with other key stakeholders. Regional tourism data needs are being addressed through a number of initiatives from the Commonwealth Government's Tourism White Paper Implementation Plan 2004. This is relevant to information needs on Rural and Regional Economic Growth.

7.5 OTHER RELATED ABS WORK *continued*

- The ABS is represented by its Labour Market Statistics Section on a Skills Outlook Working Group which has been convened by DEST and DEWR to investigate the data and issues around skills shortages as a response to the Senate inquiry: Bridging the Skills Divide. This is relevant to information needs on Rural and Regional Economic Growth.
- The ABS Centre of Environment and Energy Statistics (CEES) is working with the National Water Commission and other agencies to identify and prioritise national data needs for water statistics. Work is also underway on the development of a land parcel frame to support the future collection of natural resource management information. This is relevant to information needs on Rural and Regional Environment issues.
- The ABS Goods and Services National Statistics Centre is developing an Agriculture IDP, in collaboration with ABARE and other key stakeholders. This is relevant to information needs on Rural and Regional Environment issues.

Other general or influencing activity to be undertaken by the Regional Statistics Program will include encouraging agencies to adopt G-NAF for small area coding of their data, to use standard classifications and to make their data more generally available. Future development activity in rural and regional statistics, as specified in the recommendations, will incorporate consideration of the various 'quality' issues raised during user consultations (Chapter 6). This will ensure not only the prospect of expanded data availability, but that appropriate relevance, accuracy, timeliness, interpretability and other coherence issues have also been considered.

7.6 THE FUTURE OF THIS IDP

It is not intended that this IDP will be a static document. Instead, progress on IDP recommendations will be reviewed on an annual basis by both the ABS and by the Rural and Regional Statistics Advisory Group, and the continued relevance of proposed developments to prevailing policy and research issues will be assessed. This may lead to a reassessment of the relative priority of individual recommendations, as well as the identification of additional information needs. Any resultant new work will be incorporated into the ABS Regional Statistics Forward Work Program or will form the basis for subsequent collaborative discussions between the ABS and other agencies. In this way, major shifts in rural and regional policy or the emergence of new issues will be reflected in the IDP and options to meet any associated needs will then be considered.

ABBREVIATIONS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ACSC	ambulatory care sensitive conditions
ACT	Australian Capital Territory
AEC	Australian Education Council
AFFA	Department of Agriculture, Fisheries and Forestry
AHURI	Australian Housing and Urban Research Institute
AIC	Australian Institute of Criminology
AIHW	Australian Institute of Health and Welfare
ALGA	Australian Local Government Association
ANZECC	Australian and New Zealand Environment Conservation Council
ANZSIC	Australian and New Zealand Standard Industrial Classification
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographical Classification
ATO	Australian Taxation Office
ATSIC	Aboriginal and Torres Strait Islander Commission
ATSIHWIU	Aboriginal and Torres Strait Islander Health and Welfare Information Unit
BRS	Bureau of Rural Sciences
BTR	Bureau of Tourism Research
BTRE	Bureau of Transport and Regional Economics
CD	Collection District
CDEP	Community Development Employment Projects
CEES	Centre for Environment and Energy Statistics
CIESIN	Center for International Earth Science Information Network, Columbia University
COAG	Council of Australian Governments
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSTDA	Commonwealth State/Territory Disability Agreement
CURF	Confidentialised Unit Record File
DCITA	Australian Government Department of Communication, Information Technology and the Arts
DEST	Australian Government Department of Education, Science and Training
DEWR	Australian Government Department of Employment and Workplace Relations
DIMIA	Australian Government Department of Immigration and Multicultural and Indigenous Affairs
DITR	Australian Government Department of Industry, Tourism and Resources
DoHA	Australian Government Department of Health and Ageing
DOTARS	Australian Government Department of Transport and Regional Services
DVA	Australian Government Department of Veterans Affairs
FaCS	Australian Government Department of Family and Community Services

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FCAI	Federal Chamber of Automotive Industries
G-NAF	Geocoded National Address File
GIS	geographic information system
GISCA	National Centre for Social Applications of GIS, University of Adelaide
GP	General Medical Practitioner
GSS	General Social Survey
HACC	Home and Community Care, Australian Government Department of Health and Ageing
HILDA	Household, Income and Labour Dynamics in Australia Survey
incl.	including
ICT	information and communication technology
ICTRG	Information Communications Technical Reference Group
IDP	Information Development Plan
LFS	Labour Force Survey
LGA	local government area
MDBC	Murray-Darling Basin Commission
MDS	minimum data set
NAP	National Action Plan for Salinity and Water Quality
NATSEM	National Centre for Social and Economic Modelling, University of Canberra
NCCJS	National Centre for Crime and Justice Statistics, Australian Bureau of Statistics
NCVER	National Centre for Vocational Education Research
NHS	National Health Survey
NHT	National Heritage Trust
NLWRA	National Land and Water Resources Audit
NMDS	National Minimum Data Set
NRHA	National Rural Health Alliance
NRHPF	National Rural Health Policy Forum
NRM	natural resource management
NRP	National Regional Profile
NSS	National Statistical Service
NSW	New South Wales
NT	Northern Territory
OECD	Organisation for Economic Co-operation and Development
OESR	Queensland Government Office of Economic and Statistical Research
ONS	Office of National Statistics
PSMA	Public Sector Mapping Agencies
Qld	Queensland
RADL	Remote Access Data Laboratory
RIU	Resource Information Unit Pty Ltd
RRSNC	Rural and Regional Statistics National Centre, Australian Bureau of Statistics
RSSS	Regional Skills Shortages Survey
SA	South Australia
SD	statistical division
SIH	Survey of Income and Housing
SLA	statistical local area
SR	statistical region
SSD	statistical subdivision

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ABBREVIATIONS

Tas.	Tasmania
TAFE	Technical and Further Education
TBL	triple bottom line
TRA	Tourism Research Australia
Vic.	Victoria
WA	Western Australia

DEPARTMENTS AND AGENCIES INVOLVED IN CONSULTATIONS

INTRODUCTION

The production of this IDP has been greatly assisted by the receipt of feedback from a wide range of users and producers of rural and regional data.

Input on early drafts of the IDP was initially sought from the Rural and Regional Statistics Advisory Group. The Advisory Group's primary role is to provide advice to the ABS in respect of emerging issues in the politics of rural and regional Australia and how these might be statistically addressed. This includes advice on statistical priorities and required development activity. Table A1 lists Advisory Group members as at October 2004.

A1 RURAL AND REGIONAL STATISTICS ADVISORY GROUP MEMBERS

Professor Graeme Hugo	Director, GISCA, University of Adelaide
Professor John Mangan	Director, Centre for Economic Policy Modelling, University of Queensland
Mr Richard Stayner	Director, Institute for Rural Futures, University of New England
Dr Stephen Beare	Department of Agriculture, Fisheries and Forestry - Australia (incl. ABARE)
Dr Trevor Webb	Bureau of Rural Sciences
Mr Bob McHugh	Department of Education, Science and Training
Mr Chris Carlile	Department of Family and Community Services
Ms Jill Kurr	Department of Health and Ageing
Mr Ivan Neville	Department of Employment and Workplace Relations
Dr Judith Winternitz	Bureau of Transport and Regional Economics
Mr Greg Divall	Centrelink
Dr Peter Crossman	Queensland Office of Economic and Statistical Research
Dr Dennis Griffith	Northern Territory Department of the Chief Minister
Mr Jonathan Cartledge	Australian Local Government Association
Mr Frank Blanchfield	Director, Geography, ABS

In late 2003/early 2004 extensive consultations on the draft IDP were conducted in each state and territory. In addition to the feedback provided at these sessions, many delegates also subsequently took the opportunity to submit detailed written comments. Table A2 lists the departments and agencies in each jurisdiction who contributed to this process. Feedback on the draft IDP was also received from Professor Martin Bell (University of Queensland) and Professor Andrew Beer (Flinders University).

A2 DEPARTMENTS AND AGENCIES PROVIDING FEEDBACK

Australian Government/National

Department of Communications, Information Technology and the Arts
Department of Family and Community Services
Department of Health and Ageing
Department of Agriculture, Fisheries and Forestry Australia (incorporating ABARE and BRS)
Department of Immigration and Multicultural and Indigenous Affairs
Department of Employment and Workplace Relations
Department of the Environment and Heritage
Department of Transport and Regional Services
Centrelink
Parliamentary Library
National Office for the Information Economy
Commonwealth Grants Commission
National Centre for Vocational Education Research

New South Wales

Department of State and Regional Development
Department of Infrastructure, Planning and Natural Resources
Premiers Department
Ministry of Transport
Department of Ageing, Disability and Home Care
WorkCover NSW
NSW Health
Albury City Council

Victoria

Department of Innovation, Industry and Regional Development
Department of Sustainability and Environment
Department for Victorian Communities

Queensland

Department of Employment and Training
Department of State Development and Innovation (incorporating Office of Regional Development)
Department of Communities
Department of Primary Industries and Fisheries
Department of Natural Resources and Mines
Department of Housing
Department of Local Government and Planning
Department of Transport
Department of Health
Department of the Premier and Cabinet
Department of Main Roads
Office of Economic and Statistical Research
Local Government Association of Queensland

A2 DEPARTMENTS AND AGENCIES PROVIDING FEEDBACK — *continued*

South Australia

Department of Transport and Urban Planning
 Department of Premier and Cabinet
 Department of Justice
 Department of Primary Industries and Resources
 Department of Human Services
 Department for Aboriginal Affairs and Reconciliation
 Department for Further Education, Employment, Science and Technology
 SA Tourism Commission
 Planning SA
 Office of Regional Affairs

Western Australia

Department of Health and Ageing
 Department of Culture and the Arts
 Department of Local Government and Regional Development
 Department of Agriculture
 Department of Industry and Resources
 Office of Crime Prevention
 WA Police
 Institute for Regional Development (University of WA)
 Crime Research Institute (University of WA)
 South West Development Commission
 Goldfields Esperance Development Commission

Tasmania

Department of Education
 Department of Health and Human Services
 Department of Economic Development
 Department of Primary Industries, Water and Environment
 Department of Tourism, Parks, Heritage and the Arts
 Department of Premier and Cabinet

Northern Territory

Department of the Chief Minister
 Department of Infrastructure, Planning and Environment
 NT Treasury
 NT Police, Fire and Emergency Services
 Department of Justice
 Department of Employment, Education and Training
 Department of Health and Community Services
 Department of Community Development, Sport and Cultural Affairs
 Darwin City Council

BIBLIOGRAPHY

- ABS (Australian Bureau of Statistics) 1997, *Regional Statistics Case Studies Conducted by the South Australian Office: February 1997*, Draft Report, ABS, Canberra.
- ABS 2000, *Discussion Paper: Measuring Social Capital – Current collections and future directions*, ABS, Canberra.
- ABS 2001a, *Australia's Environment: Issues and Trends*, cat. no. 4613.0, ABS, Canberra.
- ABS 2001b, *Information Paper: A Methodology for Estimating Regional Merchandise Exports – Including Experimental Estimates for Three Queensland Regions*, cat. no. 5492.0, ABS, Canberra.
- ABS 2001c, *Measuring Wellbeing: Frameworks for Australian Social Statistics*, cat. no. 4160.0, ABS, Canberra.
- ABS 2002a, *Discussion Paper: Measuring a Knowledge-based Economy and Society - An Australian Framework*, cat. no. 1375.0, ABS, Canberra.
- ABS 2002b, *Victorian Framework for Indicators of Regional Wellbeing – A consultancy report for the Victorian State Government*, ABS, Canberra.
- ABS 2003a, *Australian Social Trends, 2003*, cat. no. 4102.0, ABS, Canberra.
- ABS 2003b, *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, cat. no. 4704.0, ABS, Canberra.
- ABS 2003c, *Measuring Learning in Australia – A framework for education and training statistics*, cat. no. 4213.0, ABS, Canberra.
- ABS 2003d, *Regional Wage and Salary Earner Statistics, Australia – Electronic Publication*, cat. no. 5673.0.55.001, ABS, Canberra.
- ABS 2003e, *Tourism Information Development Plan - Draft*, ABS, Canberra.
- ABS 2003f, *Transport Information Development Plan - Draft*, ABS, Canberra.
- ABS 2004a, *Agriculture Information Development Plan - Draft*, ABS, Canberra.
- ABS 2004b, *Australian Labour Market Statistics, April 2004*, cat. no. 6105.0, ABS, Canberra.
- ABS 2004c, *Environment Expenditure – Local Government, Australia, 2002–03*, cat. no. 4611.0, ABS, Canberra.
- ABS 2004d, *Information Paper: Mesh Blocks, Australia, 2003*, cat. no. 1209.0, ABS, Canberra.
- ABS 2004e, *Measuring Learning in Australia – Plan to improve the quality, coverage and use of education and training statistics*, cat. no. 4231.0, ABS, Canberra.
- ABS 2004f, *Measuring Social Capital – An Australian Framework and Indicators*, cat. no. 1378.0, ABS, Canberra.
- ABS 2005a, *Information Paper: Experimental Estimates of Personal Income for Small Areas, Taxation and Income Support Data, 1995–96 to 2000–01*, cat. no. 6524.0, ABS, Canberra.
- ABS 2005b, *Discussion Paper : Enhancing the Population Census – Developing a Longitudinal View*, cat. no. 2060.0, ABS, Canberra.

- AFFA (Department of Agriculture, Fisheries and Forestry - Australia) 2002, *Missed Opportunities – Harnessing the Potential of Women in Australian Agriculture*, Australian Government Publishing Service, Canberra.
- AFFA 2003, *\$1 Billion Commitment to Help Farmers in Drought*. Media Release by The Hon. Warren Truss MP Federal Minister for Agriculture, Fisheries and Forestry, 15 August, 2003. Available: <<http://www.maff.gov.au/releases/03/03215wt.html>>
- AIHW (Australian Institute of Health and Welfare) 1998, *Health in Rural and Remote Australia*, cat. no. PHE 6, AIHW, Canberra.
- AIHW 2002, *Australian Hospital Statistics 2000–01*. Available: <<http://www.aihw.gov.au/publications/hse/ahs00-01/index.html>>
- AIHW 2003, *Rural, Regional and Remote Health – Information Framework and Indicators – Version 1*. Available: <<http://www.aihw.gov.au/publications/index.cfm?type=detail&id=8963>>
- AIHW 2004, *Australia's Health 2004*. Available: <<http://www.aihw.gov.au/publications/index.cfm/title/10014>>
- AIHW (Australian Institute of Health and Welfare) & National Community Services Information Management Group 1999, *National Community Services Information Development Plan*, AIHW, Canberra.
- AIHW (Australian Institute of Health and Welfare) & National Public Health Information Working Group 1999, *National Public Health Information Development Plan*, AIHW, Canberra.
- ALGA (Australian Local Government Association) 2002, *Submission to Regional Business Development Analysis Panel – October 2002*. Available: <<http://www.alga.asn.au/submissions/regionalBizDevSub.php>>
- Allsopp, C 2003, *Review of Statistics for Economic Policymaking: First Report to the Chancellor of the Exchequer, the Governor of the Bank of England and the National Statistician*. HM Treasury, London. Available: <<http://hm-treasury.gov.uk/allsopp>>
- Anderson, K 2000, 'Globalisation, WTO, and the Next Round of Trade Negotiations', *Economic Briefing Report*, March 2000, South Australian Centre for Economic Studies, Adelaide.
- ANZECC (Australian and New Zealand Environment and Conservation Council), State of the Environment Reporting Task Force 2000, *Core Environmental Indicators for Reporting on the State of the Environment*, Environment Australia, Canberra.
- Association of Provincial Cities 1997, *Provincial Cities: A Statistical Overview of SocioEconomic Trends 1986–1996*. Available: <<http://www.pprdb.com.au/publications/>>
- ATSIC (Aboriginal and Torres Strait Islander Commission) 2002, *Outcome Data Measurement – Unfinished Business*, Office of Evaluation and Audit, Canberra.
- ATSIHWIU (Aboriginal and Torres Strait Islander Health and Welfare Information Unit) 1998, *The Aboriginal and Torres Strait Islander Health Information Plan*, AIHW, Canberra.
- ATSIHWIU 2002, *National Aboriginal and Torres Strait Islander Community Services Information Plan*, AIHW, Canberra.

- Australia State of the Environment Committee 2001, *Australia State of the Environment 2001: Independent Report to the Commonwealth Minister for the Environment and Heritage*, CSIRO Publishing on behalf of the Department of the Environment and Heritage, Canberra.
- Australian Statistics Advisory Council 1999, *Annual Report: 1998–99*, ABS, Canberra.
- Beer, A 2004, 'The Dimensions of Regional Research in Australia'. *Sustaining Regions*, vol. 3 no. 3, Winter 2004.
- Beer, A, Maude, A & Pritchard, B 2003, *Developing Australia's Regions – Theory and Practice*, UNSW Press, Sydney.
- BRS (Bureau of Rural Sciences) 2003, *Wellbeing Indicators and Service Access – A report prepared for the Department of Transport and Regional Services*, Department of Agriculture, Fisheries and Forestry, Canberra.
- BTRE (Bureau of Transport and Regional Economic) 2003a, *Focus on Regions No. 1: Industry Structure*, Department of Transport and Regional Services, Canberra.
- BTRE 2003b, *Working Paper 55 – Government Interventions in Pursuit of Regional Development: Learning from Experience*. Available: <<http://www.btre.gov.au/regional.htm>>
- BTRE 2004, *Focus on Regions No.2: Education, Skills and Qualifications*, Department of Transport and Regional Services, Canberra.
- Bureau of Industry Economics 1994, *Regional Development: Patterns and Policy Implications*, Australian Government Publishing Service, Canberra.
- Burke, T 1996, 'Inter-region Migration' in P W Newton and M Bell (eds.), *Population Shift: Mobility and Change in Australia*, AGPS, Canberra.
- CIESIN (Centre for International Earth Science Information Network) 2003, *Land Degradation and Desertification – A thematic guide*. Available: <<http://www.ciesin.org/TG/LU/degrad.html>>
- Commonwealth of Australia 2002, *Strategic leadership for Australia: policy directions in a complex world*, Department of the Prime Minister and Cabinet, Canberra.
- Commonwealth of Australia 2003, *Australia's regions: working in partnership 2003–04*, Department of Communications, Information Technology and the Arts, Canberra.
- Commonwealth of Australia 2004, *Regional partnership for growth and security 2004–05*, Department of Communications, Information Technology and the Arts, Canberra.
- CSIRO (Commonwealth Scientific and Industrial Research Organisation) 2002, *An Evaluative Framework and Performance Measures for the Sustainable Regions Program – Final report for the Department of Transport and Regional Services*, CSIRO Sustainable Ecosystems, Canberra.
- Cummings, S, Heeks, R & Huysman, M 2003, *Development Informatics Working Paper No. 16 – Knowledge and Learning in Online Communities in Development: A Social Capital Perspective*, Institute for Development Policy and Management, Manchester.
- DoTaRS (Department of Transport and Regional Services) 2001, *The Foundations for Future Growth – Commonwealth Programs and Services in Regional Australia 1996–2001*. Available: <<http://www.dotars.gov.au/regional/statement/consolidation/index.htm>>
- DoTaRS 2002a, *Green Paper: AusLink - Towards the National Land Transport Plan*. Available: <<http://www.dotars.gov.au/transinfra/auslink/greenpaper.htm>>

- DoTaRS 2002b, *Stronger Regions, A Stronger Australia*. Available:
<<http://www.dotars.gov.au/regional/statement/contents.htm>>
- Eurostat 2002, *European Regional Statistics: Reference Guide*, Office for Official Publications of the European Communities, Luxembourg.
- FaCS (Department of Family and Community Service) 2001, *FaCS Occasional Paper No.3 – The Identification and Analysis of Indicators of Community Strength and Outcomes*. Available:
<[http://www.facs.gov.au/internet/facsinternet.nsf/vIA/occasional_papers/\\$file/No.3.pdf](http://www.facs.gov.au/internet/facsinternet.nsf/vIA/occasional_papers/$file/No.3.pdf)>
- Hugo, G 2004, *Australian Census Analytical Program: Australia's Most Recent Immigrants*, 2001, ABS cat. no. 2053.0, ABS, Canberra.
- Maude, A & Beer, A 2003, 'Reforming the Structure of Regional Development Agencies in Australia', *Sustaining Regions*, vol. 3 no. 2, Summer 2003.
- MDBC (Murray-Darling Basin Commission) 1995, *An Audit of the Water Use in the Murray-Darling Basin*, Murray-Darling Basin Ministerial Council, Canberra.
- Meeting the Challenges 2001, *The Next Step in the Carr Labor Government Strategy for Economic Growth and Job Creation in Regional Areas*. NSW Government, Sydney.
- Melhuish, T & King, A 2004, *Baseline Small Area Projections of the Demand for Housing Assistance*, AHURI, Melbourne.
- Myrdal, S & Kristiansen, A 2002, *Distinguishing rural from urban*, Learning and Teaching in the Rural Arctic web site, 22 April 2002. Available:
<http://ust.khi.is/latira/what_is_rural.htm>
- National Economics 1999, *State of the Regions 1999*, National Economics, Sydney.
- Neame, A & Heenan, M 2004, *Australian Centre for the Study of Sexual Assault – Briefing Paper No.3: Responding to Sexual Assault in Rural Communities*. Available: <<http://www.aifs.gov.au/acssa/pubs/briefing/b3.html>>
- New South Wales Environment Protection Authority 2000, *State of the Environment 2000*. Available: <<http://www.epa.nsw.gov.au/index.htm>>
- New South Wales Government 2003, *Rebuilding Country New South Wales: Directions Statement for Regional Growth and Lifestyle*, NSW Government, Sydney.
- NLWRA (National Land and Water Resources Audit) 2002, *Australia's Natural Resources: 1997–2002 and beyond*. Available:
<http://audit.ea.gov.au/ANRA/docs/final_report/final_report_contents.cfm>
- Northern Tasmanian Regional Development Board Ltd 1999, *Facts and Figures: Economic and demographic profile of Northern Tasmania*. Available:
<<http://www.businessnorth.com.au/>>
- Northern Territory Government 2003, *Building Stronger Regions – Stronger Futures*, NT Department of Community Development, Sport and Cultural Affairs, Darwin.
- NRHPF & NRHA (National Rural Health Policy Forum & National Rural Health Alliance) 1999, *Healthy Horizons: A Framework for Improving the Health of Rural, Regional and Remote Australians*. Available:
<<http://www.health.gov.au/hsdd/horizons/index.htm>>
- OECD (Organisation for Economic Co-operation and Development) 2001, *The Well-being of Nations: The role of human and social capital*. Available:
<<http://www1.oecd.org/publications/e-book/9601011E.PDF>>

- ONS (Office for National Statistics) 2002, *National Strategy for Neighbourhood Renewal – Report of Policy Action Team 18: Better Information*. Available: <http://www.neighbourhood.statistics.gov.uk/pat18report_contents.asp>
- Price, P 1999, *Challenges and Opportunities for Regional Australia*, Background Paper prepared for The Regional Australia Summit, Canberra, 27 October, 1999.
- Primary Industries Standing Committee 2003, *A Vision for Change – National Plan for Women in Agriculture and Resource Management. Third Annual Implementation Report 2000–2001*. Department of Agriculture, Fisheries and Forest - Australia, Canberra.
- Pritchard, B & McManus, P (eds.) 2000, *Land of Discontent – The dynamics of change in rural and regional Australia*, UNSW Press, Sydney.
- Productivity Commission 2003a, *Overcoming Indigenous Disadvantage – Key Indicators 2003*. Available: <<http://www.pc.gov.au/gsp/indigenous/index.html>>
- Productivity Commission 2003b, *Social Capital: Reviewing the Concept and its Policy Implications*. Available: <<http://www.pc.gov.au/research/commres/socialcapital/index.html>>
- Queensland Department of Communication and Information, Local Government, Planning and Sport 2000a, *Far North Queensland Regional Plan – Supporting Document: Economic Development*. Available: <<http://projects:dcilgp.qld.gov.au/>>
- Queensland Department of Communication and Information, Local Government, Planning and Sport 2000b, *Far North Queensland Regional Plan – Supporting Document: Social Planning and Human Services*. Available: <<http://projects:dcilgp.qld.gov.au/>>
- Queensland Government 2003, *Government Priorities, Outcomes, Outcome Measures and Key Outcome Resources*, Queensland Government, Brisbane.
- Queensland Government 2004, *Statement of the Statistical Priorities of the Queensland Government*, Queensland Government, Brisbane.
- Queensland Treasury 2003, *Drivers of Growth in the Smart State – Productivity and Regional Economic Performance in Australia*. Available: <www.treasury.qld.gov.au/pdf/drivers-of-economic-growth.pdf>
- SGS Economics and Planning 2002, *Regional Business Development Literature Review. A report prepared for the Department of Transport and Regional Services (DoTaRS)*. Available: <http://www.rbda.gov.au/research/literature_review/index.htm>
- Smailes, P 2002, *Rural Community Social Area Identification*, National Centre for Social Applications of Geographical Information Systems (GISCA), Adelaide.
- South Australian Centre for Economic Studies 2001, *The Impact of Gaming Machines on Small Regional Economies*, Consultancy Report prepared for the Provincial Cities Association of SA, SACES, Adelaide.
- South Australian Farmers' Federation 2004, *A Triple Bottom Line for the Bush – Rural South Australia Policy for the Future*, South Australian Farmers' Federation, Adelaide.
- South East NSW Area Consultative Committee 1999, *Regional Employment Profiles for South East NSW*. Available: <www.seacc.org.au/default.htm>
- Stimson, RJ, Stough, RR & Roberts BH 2002, *Regional Economic Development – Analysis and Planning Strategy*, Springer-Verlag, Berlin.

- Tasmania Together Progress Board 2001, *Tasmania Together – Goals and Benchmarks*. Available: <http://www.tasmaniattogether.tas.gov.au/goals_benchmarks.html>
- Transport Western Australia 2000, *Goldfields-Esperance Regional Transport Strategy*. Available: <www.transport.wa.gov.au/publications/index.html>
- United Nations 1992, *Convention on Biological Diversity* [On-line]: Available: <<http://www.biodiv.org/convention/articles.asp>> [2002, June 3]:
- Vandendorpe, Luc 1997, *The European Indicators of Regional Convergence: A Retrospective*. Available: <<http://mrw.wallonie.be/dgee/dpe/dia/en/divers/>>
- Victorian Department for Victorian Communities 2003, *Corporate Plan 2003–2006*. Available: <<http://www.dvc.vic.gov.au/about.htm#corporate>>
- Victorian Department of Human Services 2001, *The Victorian Ambulatory Care Sensitive Conditions Study: Preliminary Analyses*. Available: <<http://www.health.vic.gov.au/healthstatus/acsc/analyses.htm>>
- Victorian Department of Infrastructure 2002, *Regional Matters: An Atlas of Regional Victoria*. Available: <<http://www.information.vic.gov.au/resources/atlas/index.html>>
- Vinson, T 1999, *Unequal in Life: the Distribution of Social and Economic Disadvantage in Victoria and New South Wales*, The Ignatius Centre, Melbourne.
- WA Department of Local Government and Regional Development 2002, *Draft Regional Policy Statement for Western Australia*. Available: <<http://www.dlgrd.wa.gov.au/rps/rpscontents.html>>
- WA Department of Local Government and Regional Development & the Mid West Development Commission 2001, *Mid West Economic Perspective*. Available: <www.regional.wa.gov.au/publicat/>
- WA Department of the Premier and Cabinet 2002, *Focus on the Future: The Western Australian State Sustainability Strategy – Consultation Draft*. Available: <http://www.sustainability.dpc.wa.gov.au/docs/Draft_Strategy.htm>
- Williams, J 1999, *Farming Without Harming: Can We Do It?*, Background Paper prepared for The Regional Australia Summit, Canberra, 27 October, 1999.
- Women's Services Network, The 2000, *Domestic Violence in Regional Australia: A Literature Review*, Department of Transport and Regional Services, Canberra.
- World Commission on Environment and Development 1987, *Our Common Future: Report of the World Commission on Environment and Development* (Brundtland Report), Oxford University Press.

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