



**TRADE AND AGRICULTURE DIRECTORATE**

**THE ROLE OF AGRICULTURE AND  
FARM HOUSEHOLD DIVERSIFICATION**

**IN THE RURAL ECONOMY OF**

**AUSTRALIA**

## ***Foreword***

This report reviews information on the role of agriculture and farm household diversification in the rural economy of Australia. It was prepared by a consultant, Darryl Jones.

It is one of 13 country reviews prepared under Output area 3.2.1: Agricultural policy reform (Item 3.2) of the programme of work and budget of the Committee for Agriculture for 2007-08.

Based on material compiled from the available literature, these country reviews address all or most of the topics listed below:

- Definitions and underlying concepts of “rural” as they exist at the national level.
- The availability of data pertaining to the share of agriculture and the agro-food sector in the economies of OECD countries at the national level and in rural areas and trends therein.
- The availability of data relating to the income situation of farm households and in particular the availability of information related to non-farming activities.
- The extent to which non-farming income-earning activities of farm households are farm based (*i.e.* using farm resources as in the case of farm tourism) or rural based (located in rural areas).
- The extent to which the industries upstream and downstream from primary agriculture are located in rural areas.
- The strength of multiplier effects between farm/farm based and up/downstream industries and rural economies.

The information in these country reviews was used as background to the report "The role of agriculture and farm household diversification in the rural economy: evidence and initial policy implications" [TAD/CA/APM/WP(2009)1/FINAL], which was declassified by the Working Party on Agricultural Policies and Markets in February 2009.

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## EXECUTIVE SUMMARY

- Within the Australian Standard Geographical Classification system, the distinction between “rural” and “urban” areas is made primarily on the basis of population. The system makes a distinction between “Bounded Localities” (those with a population of 200 to 999 persons) and “Rural Balance” which is the residual category, *i.e.* the population not living in urban areas (those with a population of over 1 000) and Bounded Localities. An alternative system of comparing city and country has been developed in Australia based on the degree of remoteness, as measured using the distance to five urban centres of different population sizes. The system has five categories of increasing remoteness: Major Cities; Inner Regional; Outer Regional; Remote; and Very Remote.
- Rural areas account for around 13% of the population and employment. A similar proportion of the population lives outside major cities and inner regional Australia, occupying 97% of land area and contributing just over 10% to total taxable income. Almost 90% of the population live on 3% of the land area. The Australian Capital Territory (ACT), Victoria and New South Wales (NSW) are the most urban of the eight States/Territories of Australia in terms of population distribution. South Australia, Western Australia, Queensland and Tasmania are more rural, although slightly different from each other, with the Northern Territory the most remote.
- In 2005, establishments with agricultural activity occupied 445.1 million hectares, 58% of the total land area. Since the mid-1980s, the area occupied by farms has steadily declined at the national level by just over 9%. Even in the most urbanised of States/Territories, agriculture dominates land use, accounting for 80% or more of land area in Queensland and New South Wales and over 50% in Victoria. Plantation forestry accounts for just 0.2% of total land area.
- It is estimated that around 2% of the national population (17% of the rural population) were living on farms in 2006, down from 3% in (22% of rural population) in 1986. The importance of farm households in the rural population is lower in the more remote states of Queensland, Tasmania and Northern Territory, reflecting the distribution of the Aboriginal population and the importance of other natural resource based production such as mining and forestry to these economies. While the number of farms has fallen by around 25% over the twenty years, the number of people defined as rural has fluctuated – first rising between 1986 and 1996 and then decreasing from 1996-2006 to finish at the same level of around 3.2 million persons.
- In the 2006 census, 2.7% of those employed in Australia defined themselves as working in agricultural production, with a further 2.7% in up and down stream industries related to agricultural production. In rural areas agriculture accounts for 17% of employment at the national level, but up to 80% in some local government regions. Employment in agriculture has fallen by 7% since the mid-1980s.
- Primary production (agriculture, forestry, fishing and services to agriculture) contributed 2.8% of GDP in 2005/06. Primary production plays a slightly more significant role in the economies of South Australia, Tasmania and Queensland. The contribution of agriculture to GDP has remained

relatively steady at around 3% since the late 1980s, having averaged 3.5% of GDP in the mid-1980s. This is due to increased productivity, particularly in grain sector. Periods of severe droughts have caused some significant variations around this constant trend.

- Diversification away from agricultural production is increasing. There has been an increase in the number of farms containing an area of plantation forest, along with a rise in other on-farm enterprises such as tourism, aquaculture, and the processing of milk, wool and oil products. Off-farm wages and salaries occur on more than 40% of broadacre farms, are mainly earned by women, and represent nearly half the average broadacre farm income.
- The most important motivation for diversification is to obtain an alternative source of income, driven by falling terms of trade, droughts and policy reform. Both the Commonwealth and State Governments have used a number of policy instruments to stimulate the expansion of farm forestry. Distance from the market limits, however, the ability of some producers to diversify.
- Farm tourism in Australia is dominated by the wine sector, which saw a 50% increase in the number of visitors to wineries between 1999 and 2007. Around urban areas, farm trails have been an important marketing development bringing visitors to farms. Farm stay/accommodation services are also located closer to urban areas, suggesting that geographical distance is a barrier to entry. Both income and social benefits are important motivators for those involved. Efforts are being made to encourage more farmers to consider tourism as a viable option.
- Various multipliers (output, employment and value added) have been developed at the national, state and regional level. These are very difficult to compare because of methodological differences. A comprehensive study for the state and regions of Queensland reveals some large differences in multiplier values between regions and the state level for any particular industry grouping.

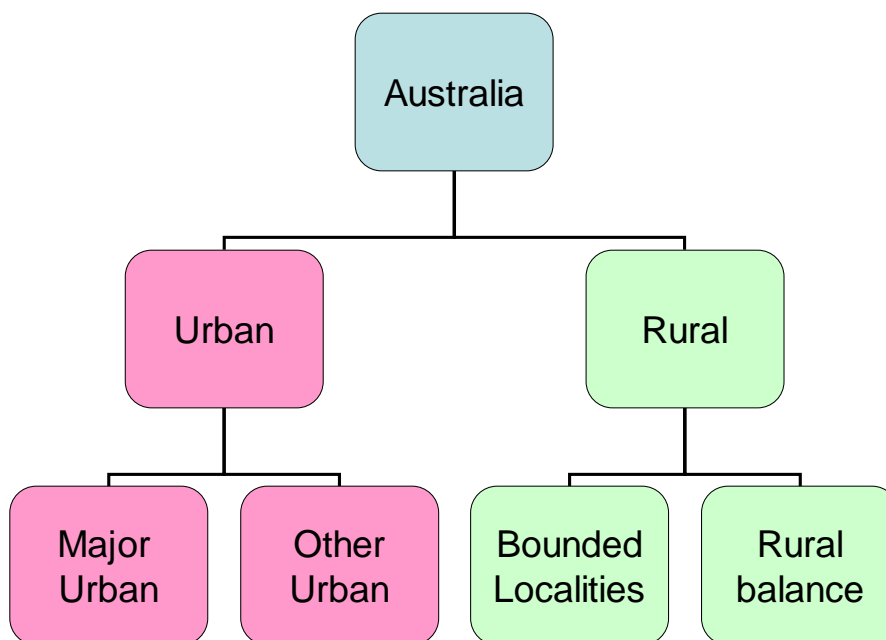
## THE ROLE OF AGRICULTURE AND FARM HOUSEHOLD DIVERSIFICATION IN THE RURAL ECONOMY OF AUSTRALIA

### Definition of rural areas in national statistics

#### *The Section of State (SOS) urban/rural classification*

Within the Australian Standard Geographical Classification (ASGC) system used by the Australian Bureau of Statistics (ABS), the Section of State (SOS) structure uses a combination of population size and density measures to classify census Collection Districts (CD) as either urban or rural (ABS, 2007a).<sup>1</sup> CDs that contain people living in close proximity to others (at least 200 persons per square kilometre) in clusters of 1 000 people or more are classified as urban; those living in areas outside of urban centres of 1 000 or more people are deemed to be rural (Diagram 1).

**Diagram 1. Section of State (SOS) urban/rural classification system**



Source: Based on description contained in ABS (2007a).

1. The traditional concept of a CD is that it defines an area that one census collector can cover, delivering and collecting census forms, in about a ten-day period. However, in the interests of comparability between censuses, this criterion is no longer strictly observed. Many urban CDs are of a size such that census collectors may be allocated more than one CD. In urban areas CDs average about 220 dwellings. In rural areas the number of dwellings per CD reduces as population densities decrease. For the 2006 Census, 38 704 CDs were defined throughout Australia.

In a census year, the CD is the smallest geographic unit of the ASGC and it is from this building block that all other levels of the classification are aggregated. In between census years, the Statistical Local Area (SLA) is the smallest geographic unit. By design, CD boundaries do not cross SLA boundaries. Likewise SLA boundaries do not cross Local Government Area (LGA) boundaries. In most of “rural” Australia, SLAs are equivalent to LGAs.

Urban areas are further separated into two major categories: Major Urban areas (populations of 100 000 or more) and Other Urban areas (populations of 1 000 to 100 000). These categories can be broken down into further groupings based on population size. For example, Other Urban areas with a population in the range of 20 000 to 99 000 persons can be referred to as “medium townships” while those with a population ranging from 1 000 to 19 999 can be referred to as “small townships” (ABS, 2004).

There are two major categories of rural areas: Bounded Localities and Rural Balance. Bounded Localities must contain a non-farm population of at least 200 people but not more than 999 persons; have a minimum of 40 occupied non-farm dwellings with a discernible urban street pattern; and have a discernible nucleus of population. Rural Balance is the urban/rural area classification residual category, and includes all CDs that are not already classified as either Urban or Bounded Localities.<sup>2</sup>

### ***The Remoteness Area (RA) classification***

During the 1990s, there was an increasing demand on the ABS for aggregated statistics which would allow quantitative comparisons between “city” and “country” Australia. In consultation with key users of the ASGC, both internal and external, the ABS determined that the SOS classification of urban/rural alone does not meet this need. A major problem identified with the standard, historical urban/rural classification is that it does not distinguish between urban and rural areas which are on the fringe of a major city and those that are in the outback, far from a large city (ABS, 2001a and 2001b).<sup>3</sup>

Consequently, the ABS developed the Remoteness Area (RA) system which classifies CDs into five broad classes of remoteness, which share common characteristics in terms of physical distance from services and opportunities for social interaction. The methodology used to measure remoteness is the Accessibility/Remoteness Index of Australia (ARIA), developed in 1997 by National Key Centre for Social Applications of GIS (GISCA) for the Commonwealth Department of Health and Aged Care.

ARIA measures the remoteness of a “place” based on the physical road distance from that place to the nearest urban centre in each of five population size classes (1 000—5 000; 5 000—17 999; 18 000—47 999; 48 000—249 999; >250 000). Its basic premise is that there are more services available in large towns than in small towns and remoteness is a factor of the relative distance one must travel to access a full range of services. Population size of an urban centre is used as a proxy for the availability of a range of services. ARIA assumes that some services are available in small towns of 1 000—5 000 persons, more services in towns of 5 000-17 999 persons and so on. A full range of services is only assumed to be available in a city of 250 000 or more persons (ABS, 2001a).

An ARIA index score for a “place” is calculated by summing together five sub-indexes, one for each population size class. A sub-index for each population size class is derived by dividing the road distance from the “place” to the nearest urban centre of that population size class by the average distance from all “places” to the urban centre of that population size class. A sub-index ratio is capped at a maximum value

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2. Note that both the SOS and RA classification system have an additional category termed “migratory” containing off-shore, shipping and migratory CDs (ABS, 2007a). This category is very small and is not included in this analysis.

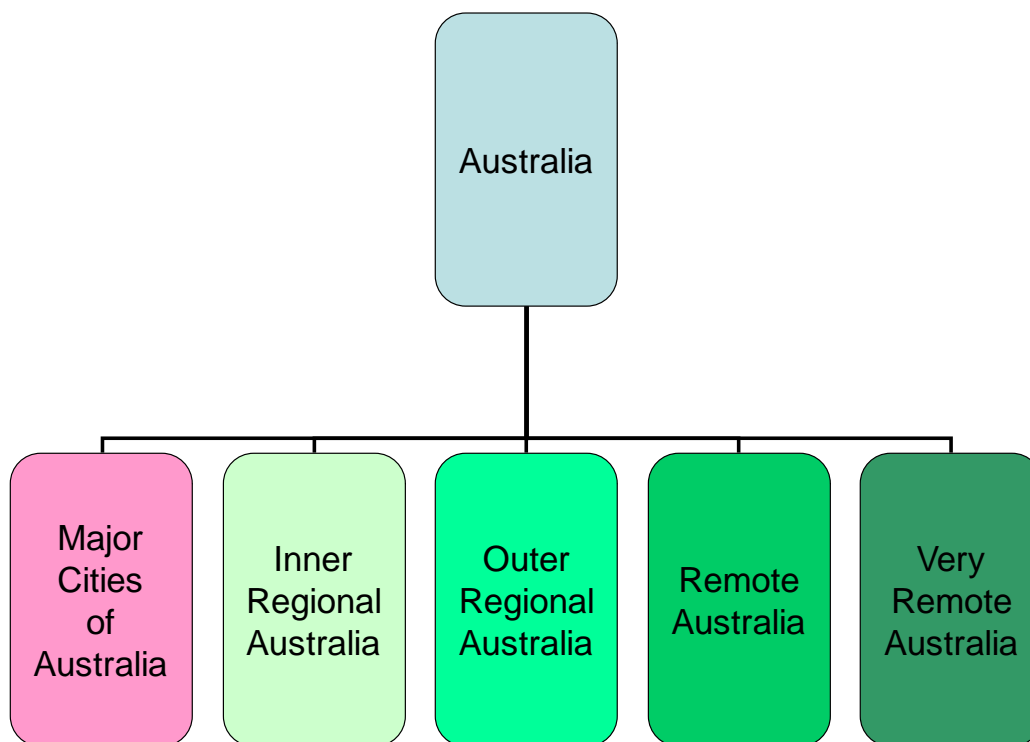
3. It is intended that the SOS urban/rural classification system will be reviewed in 2008 (ABS, 2007b).

of 3. By definition, “places” within urban centres with more than 250 000 persons have an ARIA score of zero.

The “places” which ARIA uses is a set of 11 300 populated places in the national topographic database, GEODATA 250k. The score for these places is then interpolated to a one kilometre grid so that, for all practical purposes, there is an ARIA score for any point on the map of Australia and meaning that there are 7.7 million values in the database. These are aggregated into CDs, which are then classified into one of the five RA categories based on the average score for the CD (Diagram 2).<sup>4</sup>

- Major Cities of Australia – CDs with an average ARIA index value of 0 to 0.2;
- Inner Regional Australia – CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4;
- Outer Regional Australia – CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92;
- Remote Australia – CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53; and
- Very Remote Australia – CDs with an average ARIA index value greater than 10.53.

**Diagram 2. Remoteness Area (RA) classification system**



Source: Based on description contained in ABS (2007a).

4. If the ARIA index value is averaged over a larger geographical unit, like an SLA or post code, the variance from the average can be very high. In the extreme case the average ARIA score for, say a State or Territory, is meaningless. While the fact that ARIA is not specific to a geographical unit is generally a positive feature, it can also make nonsense of the methodology if index values are averaged for inappropriately large areas.

The RA classification, like other statistical geographies, provides a framework for the collection, dissemination and analysis of data. It is not intended to be a “stand alone” indicator of advantage or disadvantage. In fact while geographical remoteness may be seen to be a disadvantage in some studies, it may also be seen to be highly advantageous, for example when comparing air quality or noise pollution.

The 2001 Census of Population and Housing was the first major ABS collection to be disseminated on the RA classification. The resulting distribution of population is shown in Annex Map 1.

### ***A metropolitan/non-metropolitan classification***

Prior to the development of the RA classification system by the ABS, other researchers had attempted to develop classifications. The most widely used appears to be the classification developed by the Australian Bureau of Agricultural and Resource Economics (ABARE), presented in Garnaut *et al.* (2001) and used for example by Haberkorn *et al.* (2004) and DAFF (2005a).<sup>5</sup> It uses a combination of population size, remoteness and geographic location to classify SLAs (Table 1). These reports often refer to differences between metropolitan and non-metropolitan Australia, where the latter term refers to everything not in the Metropolitan classification, *i.e.* the combination of the remaining four categories.

**Table 1. Description of categories in the metropolitan / non-metropolitan classification system**

<b>Category</b>	<b>Description</b>
Metropolitan	The eight State/Territory capital cities (Adelaide, Brisbane, Canberra, Darwin, Hobart, Melbourne, Perth and Sydney) — all of which, with the exception on Canberra, are located along the coastline.
Other Metropolitan <sup>1</sup>	This category includes all SLAs, other than a capital city, that contain the whole or part of an urban centre with a population of more than 100 000. Regional city centres are Cairns, Townsville, Sunshine Coast and Gold Coast (Queensland); Tweed Heads, Newcastle and Wollongong (New South Wales); and Geelong (Victoria) — all of which are located along the coastline.
Remote	This category refers to all sparsely populated SLAs classified as ‘remote’ or ‘very remote’ in the Accessibility/Remoteness Index of Australia. Remoteness is related to the minimum road distances between each populated locality in the statistical local area and the nearest urban centre in four categories, ranging from 5 000 to 100 000 people.
Coastal <sup>1</sup>	SLAs that are not classified as remote and which are generally located within 80 kilometres of the coastline.
Inland <sup>1</sup>	The residual category, containing the remaining SLAs which by definition are inland from the coast.

1. Referred to as “Regional City”, “Populated Coastal” and “Populated Inland” in Haberkorn *et al.* (2004).

Source: Garnaut *et al.* (2001).

Comparing this classification with the previous two, a number of observations are worthwhile. First, the categories are built on slightly different spatial units – CDs in the case of the first two; SLAs in this one. Second, the Metropolitan and Other Metropolitan categories are a split of the SOS Major Urban category on the basis of whether the SLA is located in a capital city or not. Finally, the classification used the original version of ARIA to classify SLAs as being remote. ABS made a number of slight changes to ARIA in developing their RA classification, including the addition of a fifth population class (1 000-5 000 persons).

5. While not created for the purpose of comparing rural and urban Australia, another national classification system of note is that produced for the National Land and Water Resources Audit (Barr, 2001). This classification contains 12 non-contiguous groupings of SLAs, clustered according to the farm population and industry structure characteristics. For examples of the use of this classification system see Barr (2004) and LWA (2005).

## Rural areas in the national and State/Territory economies

### National level

According to the RA classification, around one-third of Australians live in Regional and Remote/Very Remote areas which together account for almost 100% of the total land area (Table 2). In contrast, the vast majority of the population is concentrated in Major Cities, which occupy less than 0.2% of the land area. Results from the 2006 Census indicate a very similar spread in population across the RA classifications (BITRE, 2007a). Regional and Remote/Very Remote areas contribute slightly lower to employment than to population, reflected also in slightly higher rates of unemployment, particularly in Regional areas.

**Table 2. Percentage share of total land, population, employment and taxable income by Remoteness Area (RA) classification, 2001**

Remoteness area	Land	Population	Employment	Aggregate real taxable income
Australia (1 000)	7 692 km <sup>2</sup>	18 769 persons	8 299 persons	437 AUD 2006-07
Very Remote	73.4	1.1	0.8	0.6
Remote	13.3	1.8	1.7	1.4
Outer Regional	10.4	10.5	9.7	8.4
Inner Regional	2.9	20.6	18.8	17.3
Major Cities	0.2	65.9	68.1	72.1
Total outside Major Cities	100.0	34.0	31.1	27.7
Total outside Major Cities and Inner Regional	97.1	13.4	12.3	10.5

Source: BITRE (2007a) and BITRE (2007b).

Data relating to the contribution of rural areas to GDP do not appear to be available. As an alternative, the Bureau of Transport, Infrastructure and Regional Economics (BITRE) analyse regional economic growth based on the taxable income, sourced from publicly available tax data published by the Australian Tax Office. The BITRE believes these indicators “are the best nationally available for assessing economic progress in small regions” (BITRE, 2007b). Regional and remote Australia contributes about 28% of the national Aggregate Real Taxable Income.

Data relating to the distribution of population and employment based on the SOS urban/rural classification has also been produced (Table 3). It indicates that rural areas account for approximately 13% of population and employment in 2001.

**Table 3. Percentage share of total population and employment by Section of State (SOS) classification, 2001**

Section of State	Population	Employment
Australia (1 000)	18 769 persons	8 299 persons
Total Rural	12.8	12.7
Rural Balance	10.3	
Locality	2.6	
Total Urban	87.2	87.5
Other Urban	22.1	20.1
Major Urban	65.1	67.4

Source: ABS (2003a) and ABS (2004).

Comparing Table 3 and Table 4 it could be concluded that the total Rural area in the SOS classification is directly comparable to the combination of the Outer Regional, Remote and Very Remote areas (*i.e.* outside Major Cities and Inner Regional areas) of the RA classification. Both have very similar share of population and employment of around 13%. However, a closer examination of the distribution of population across both classifications indicates that this is not so, but it does highlight some interesting results (Table 4).

**Table 4. Distribution of total population by Remoteness Area (RA) and Section of State (SOS), 2001**

Section of State (SOS)	Remoteness Area (RA)					
	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
	Population (1 000 persons)					
Rural	184	1 128	807	156	133	2 408
Urban	12 198	2 729	1 181	182	71	16 361
Total	12 382	3 857	1 988	338	205	18 769
	Breakdown of RA by SOS (%)					
Rural	1	29	41	46	65	
Urban	99	71	59	54	35	
Total	100	100	100	100	100	
	Breakdown of SOS by RA (%)					
Rural	8	47	34	6	6	100
Urban	75	17	7	1	0	100

Source: ABS (2003a).

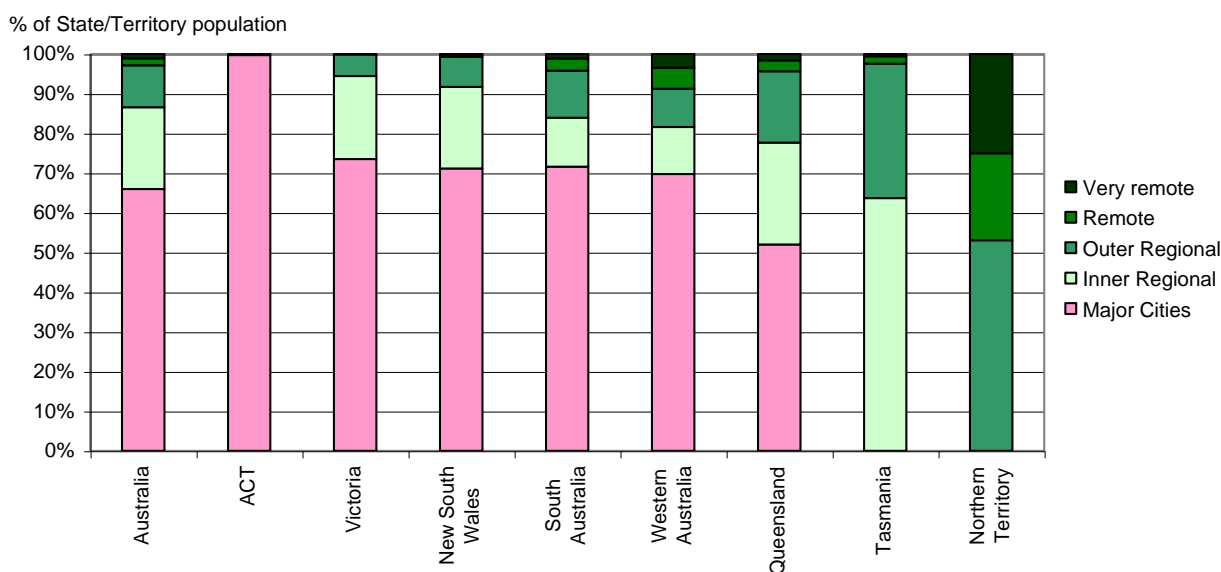
Almost 100% of the population classified as living in Major Cities under the RA method are classified as Urban under the SOS method; similarly 75% of those classified as living in Urban areas under the SOS method are also classified as living in Major Cities under the RA method. At the other end of the spectrum, less than 0.5% of the SOS Urban population is located in Very Remote areas, although they do represent 35% of the population living there. In fact for all the five RA classifications with the exception of Very Remote more people live in the Urban rather than the Rural. On the other hand, 55% of people classified as Rural live in Major Cities or Inner Regional areas of Australia. The data indicates that the Rural are not necessary remote.

Remote Australia is one of sharp contrasts. The region has the highest labour force participation, the lowest youth and adult unemployment rates, and the highest per capita incomes. At the same time, the ABS Index of Relative Socio-Economic Disadvantage (SEIFA) suggests that many of those living in Remote Australia are disadvantaged. The region has the highest proportion of families in receipt of income support; and the lowest levels of home ownership; access to the Internet and home computer use proportion of sixteen year olds in full-time education and youth labour force participation. Despite a slowly increasing population, the region has the highest rate of out-migration of youth. These trends can be explained in part by remoteness; the itinerant nature of some of the population; and contrasts between the circumstances of Indigenous Australians living on remote settlements and non-Indigenous persons employed in mining or pastoral industries (Haberhorn *et al.*, 2004).

### State/Territory level

There are also some important differences between the various States/Territories in terms of the distribution of population (Figure 1).<sup>6</sup> At the one extreme, the population of the Australian Capital Territories (ACT) is almost 100% classified as living in the Major Cities category; at the other end, there are no persons in Tasmania or the Northern Territory classified as such. A major distinction between these two administrative regions is that over 60% of the Tasmanian population is classified as living in an Inner Regional area while the entire population of Northern Territory is classified as living in an Outer Regional, Remote or Very Remote area.

**Figure 1. Share of State/Territory population by Remoteness Area (RA) classification, 2001**



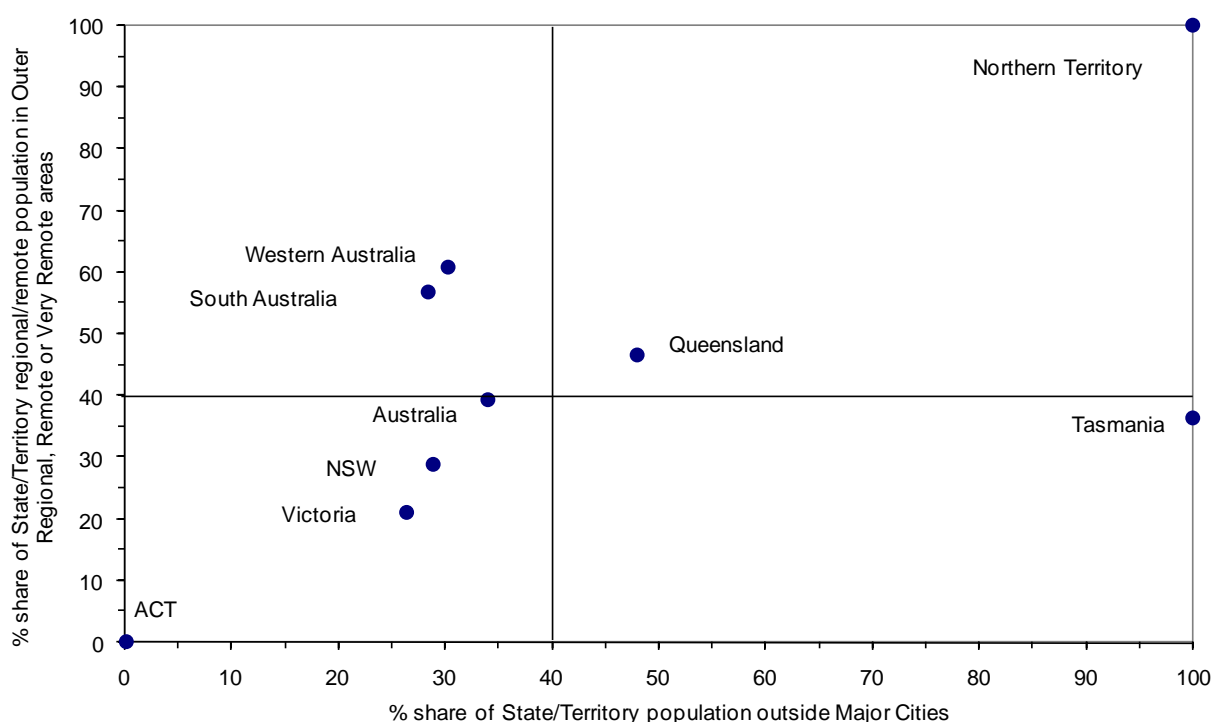
Source: ABS (2003a).

6. Annex Table 1 shows the relative importance of eight major States and Territories in Australia in terms of total land, population, employment and GDP. The Australian Commonwealth Government (national level) also has responsibility for a number of other territories including Jervis Bay, Cocos (Keeling) Islands and Christmas Island. These other territories had a combined population of 2 671 persons at the time of the 2001 Census of Population and Housing and are excluded from the rest of this analysis.

In between, four states, Victoria, New South Wales (NSW), South Australia and Western Australia, each have around 70% of their population classified as living in the Major Cities category. However, the share of the State population living in Outer Regional, Remote or Very Remote areas is almost twice as large for the latter two than the former two. The population distribution of Queensland is different from other State/Territories: while only 52% of Queenslanders live in Major Cities, a further 43% live in Outer or Inner Regional areas.

These distinctions between the eight States/Territories in terms of the remoteness distribution of the population are shown in Figure 2. The horizontal axis shows the share of the State/Territory population living outside the Major Cities classification, designated the “regional/remote population”. The vertical axis shows the share of the regional/remote population that live in Outer Regional, Remote or Very Remote areas.

**Figure 2. Identification of State/Territory by degree of remoteness, 2001**



Source: ABS (2003a).

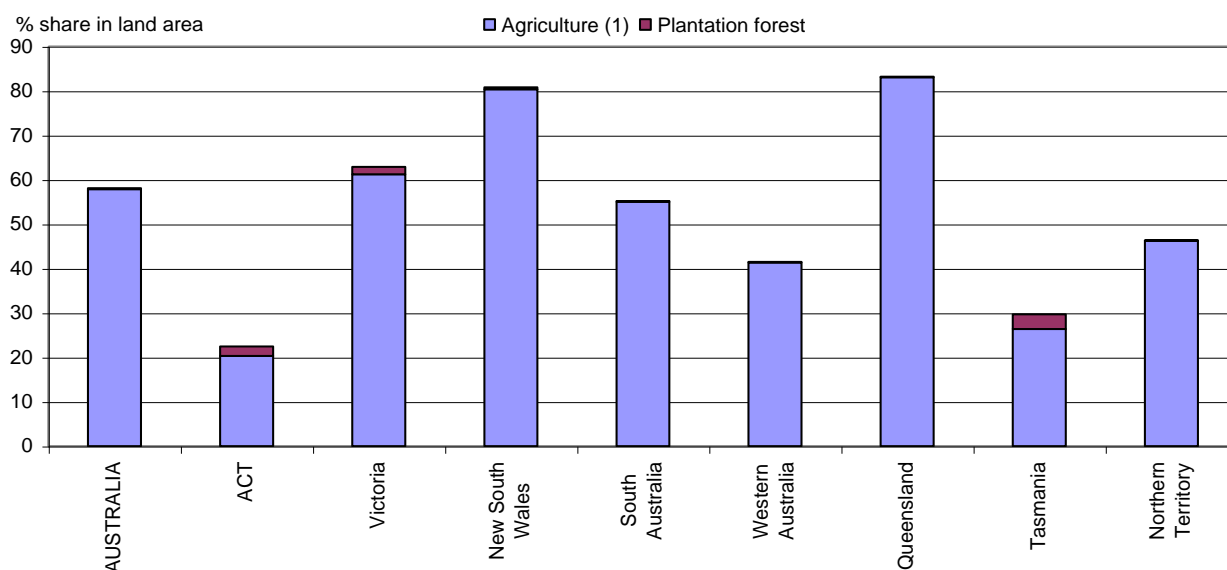
On the basis of this system, ACT, Victoria and NSW are shown to be the most urban of the eight State/Territories. South Australia and Western Australia both have similar population distributions, and could be considered as having a more “regional/remote” population than the previous three States/Territories. Tasmania and Queensland, albeit with different population distributions are certainly more “regional/remote” while the Northern Territory is definitely the most remote.

## Role of agriculture and agro-food industries in rural areas

### Land use

In spite of Australia's harsh environment, agriculture is the most extensive form of land use.<sup>7</sup> At 30 June 2005, the estimated total area of establishments with agricultural activity was 445.1 million hectares, representing about 58% of the total land area (Figure 3). Livestock grazing accounts for the largest area of land use in agriculture, with approximately 382 million hectares, or in excess of 85% of all agricultural land being used for this activity. There are three broad zones in which agricultural activity takes place, commonly referred to as the pastoral, wheat-sheep and high rainfall zones. Annex Map 2 shows the location of these three zones across Australia.

Figure 3. Share of agriculture and forestry in land use by State/Territory, 2005



1. Area of farms with an estimated value of agricultural operations of AUD 5 000 or more.

Source: Agriculture from ABS (2006), Plantation forest from BRS (2006).

In 2005, 1.74 million hectares of land was in plantation forestry, representing only 0.2% of the total land area. Of this total, 57% are planted in softwood species (95% *pinus radiata*) and 42% hardwood species (nearly all of which are native eucalypts). It is estimated that around 235 000 hectares or 15% of the plantation forestry estate in the year 2000 was located on farms (Stephens *et al.*, 2001). This represents less than 0.05% of the total land area of establishments with agricultural activity. Within this estimate a distinction was made between 67 000 hectares that was owned and operated by farmers themselves, and 168 000 hectares in leasehold or joint venture arrangements between landowners and large forest companies or state agencies.

The remainder of the national land area consists of unoccupied land (mainly desert in western and central Australia), Aboriginal land reserves (mainly located in the Northern Territory and Western Australia), native forests, mining leases, national parks and urban areas. Native forests cover 162.8 million hectares of Australia (17% of land area), which in terms of ownership is split 25/75 between private/crown (both commonwealth and state/territory governments). Nearly three-quarters of the crown land in native

7. Agriculture is also the major user of the water resource in Australia, accounting for around 65% of the total water consumed in 2004-05 (BITRE, 2007a).

forest is under leasehold title and considered “privately managed”, with most of the remainder in national conservation reserves (BRS, 2007).

Even in the most urbanised of States/Territories, agriculture dominates land use (Figure 3.1). Farming accounts for 80% or more of land area in Queensland and New South Wales, and over 50% in Victoria and South Australia. The lower proportion of land used for agricultural production in the more “rural” States/Territories of the North Territory, Western Australia and Tasmania reflects a number of factors including large areas of land either unsuitable (*i.e.* desert) or not available (set aside for Aboriginal ownership or in national/state parks, etc.) for agricultural production. Plantation forestry accounts for less than 0.2% of land area in most States/Territories, accounting for a greater share of land area in the southern, more temperate States/Territories of ACT (4%), Tasmania (3%) and Victoria (2%).

Since the mid-1980s, the area occupied by farms has steadily declined at the national level by just over 9% (more than 40 million hectares) or around 0.5% per annum (Table 5). However, there are some important variations in this trend among the States/Territories. The area in agricultural production in the five more “rural” States/Territories has decreased by around 0.5% per annum or slightly more, although the reduction has occurred later in Western Australia than in the others. By contrast, the two less regional/rural states of Victoria and New South Wales have had the smallest reduction in land area, in fact increasing in NSW over the past decade. This trend perhaps reflects the agricultural productive mix between the States/Provinces, with Victoria and New South Wales having a larger share of more intensive, small farm sectors such as horticulture, poultry and nurseries.

**Table 5. Area in agricultural production by State/Territory, 1983-2005**

Three-year average	Australia <sup>1</sup>	Victoria	New South Wales	South Australia	Western Australia	Queensland	Tasmania	Northern Territory
	Area of farms (million ha)							
1983-85	487.3	14.2	63.7	61.8	114.0	157.8	2.1	73.5
1993-95	464.2	12.7	60.3	56.7	113.0	150.6	1.9	69.0
2003-05	441.6	13.7	64.4	53.6	102.9	142.4	1.8	63.0
	Annual change in area of farms (%)							
1983-85 to 93-95	-0.5	-1.1	-0.5	-0.8	-0.1	-0.5	-1.1	-0.6
1993-95 to 03-05	-0.5	0.8	0.7	-0.5	-0.9	-0.5	-0.7	-0.9
1983-85 to 03-05	-0.5	-0.2	0.1	-0.7	-0.5	-0.5	-0.8	-0.7

1. ACT is included in the Australia total.

Source: Australian Year Book, ABS, various years.

There are many reasons behind the decline in the overall area of establishments with agricultural activity. They include the resumption of some private land for national parks; the splitting up of farms, some to smaller farms (urban sprawl is a part of this process); the transfer of land to Aboriginal ownership, some of which is no longer used for agricultural purposes; and the conversion of agricultural land to other business activities, such as forestry.

Between 1983-85 and 2003-05, the area of plantation forestry in Australia increased by around 1 million hectares, more than doubling in area occupied (BRS, 2007). Prior to 1990 plantation forests were predominately established on public land, replacing native forests with softwoods selected to produce sawn timber, with a 30-35 years cropping period. The emphasis since 1990 has been on eucalypts, established to produce woodchips for paper manufacture, with a much shorter 10 year rotation period. Most of this new planting has occurred on land that was previously in agricultural production – either farm land sold to a large forestry company or established on farms by the farmer either individually or in a leasehold/joint venture arrangement. Consequently by 2000, 53% of the land in plantation forestry had previously been in agricultural production (Wood *et al.*, 2001).

This change in land use from agriculture to forestry, while minimal at the national level has been much greater in certain local government areas. For example, in the “Great Southern” forestry region of Western Australia, the highest concentration of plantation are in three local government areas where they occupy 10%-22% of agricultural land. Concerns have been raised by communities regarding the impact of the land use change on employment, infrastructure, fire risk, landscape, etc. (Schirmer *et al.*, 2005).

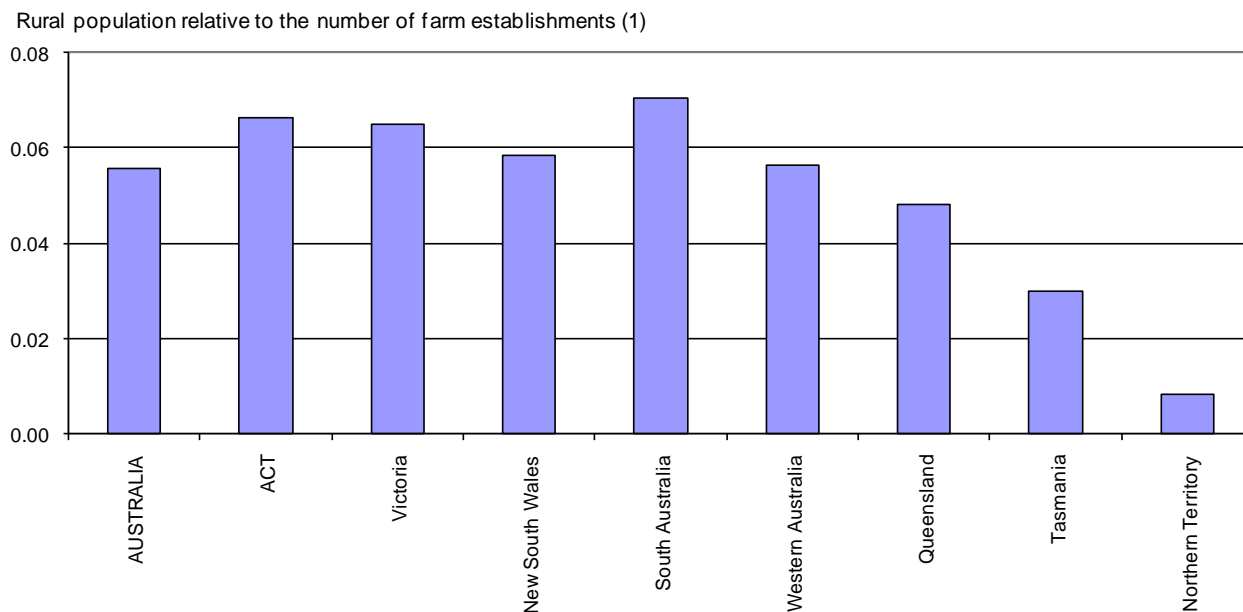
### Population

Data regarding the family farm population is not available although statistics on the number of farms are readily available. In 2006 there were around 130 000 commercial farms spread across Australia, some 25% fewer than in 1986 (ABARE, 2007).

Assuming that the average farm household comprises three members, family farm households would represent approximately 17% of the rural population (SOS classification) of 2.34 million persons in 2006 (approximately 2% of the total Australian population). Using the same methodology, farm households represent between 15-20% of the rural population in all State/Territories except in Tasmania (9%) and Northern Territories (2.5%). Assuming the same number of persons per farm household in 1986, the farm population would have represented 22% of the rural population (3% of the total Australian population).

The relative importance of farm households in rural populations can be indicated by dividing the number of farms in the State/Territory by the population defined as rural in the SOS classification (Figure 4). Farm households are relatively more important in terms of the rural population in South Australia, followed by ACT, Victoria, New South Wales and Western Australia. Farm households are relatively less important in the rural populations of Queensland, Tasmania and the Northern Territory, reflecting perhaps the significance of other natural resource based production in these States/Territories *e.g.* minerals, forestry and fishing, and in the case of the latter, the large Aboriginal population living in rural areas.

**Figure 4. Relative importance of farm establishments in rural population by State/Territory, 2006**

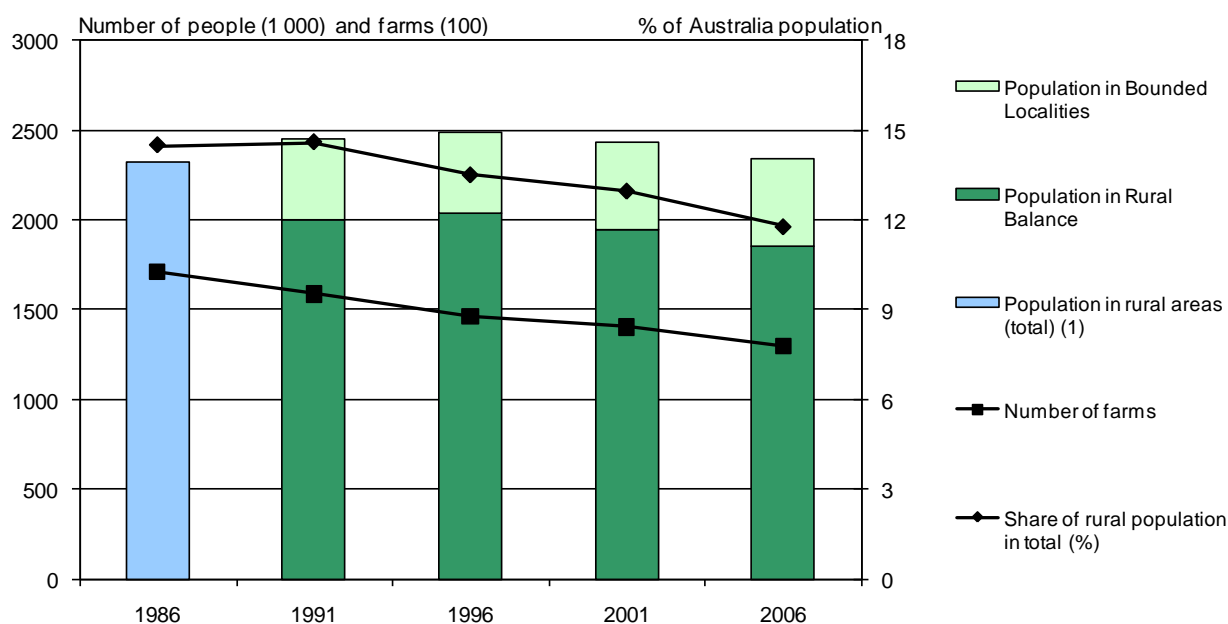


1. Farms with an estimated value of agricultural operations of AUD 5 000 or more.

Source: Australian Bureau of Statistics.

While the number of farms has fallen steadily over the twenty year period from 1986 to 2006 by around 1% per annum, the number of people living in rural Australia in these two years, as classified by the SOS, is almost the same at 3.2 million (Figure 5). During the ten year period from 1986 to 1996 there was a slight increase in the number of persons classified as rural; but there has been a similar decrease in the rural population in the following ten years to 2006.

**Figure 5. Change in rural population and farm numbers, 1986-2006**



1. A breakdown of the total rural population into Bounded Localities and Rural Balance could not be found for 1986.

Source: Australian Bureau of Statistics.

The proportion of Australians living in rural areas, which had been relatively steady at around 14% of total population since 1971 has fallen to just under 12% in 2006, reflecting both a lower rural population and a higher urban population which has increased by almost 30% since 1986. Within rural Australia, the decline has been caused by a reduction in the population classified in the Rural Balance, those living outside localities of 200 or more, which is where most of the farming families would be located.

As farm numbers have declined at a faster rate than the area of agricultural land, average farm size has increase. Over the twenty years to 2002-03, the average farm increased in size from 2 720 hectares to 3 340 hectares – an increase of some 23%. In 2002-03 around 20% of farms (25 400) were under 50 hectares accounted; one-third of farms were sized between 100 and 499 hectares; while farms over 2 500 hectares accounted for 11% of all farms (PC, 2005).

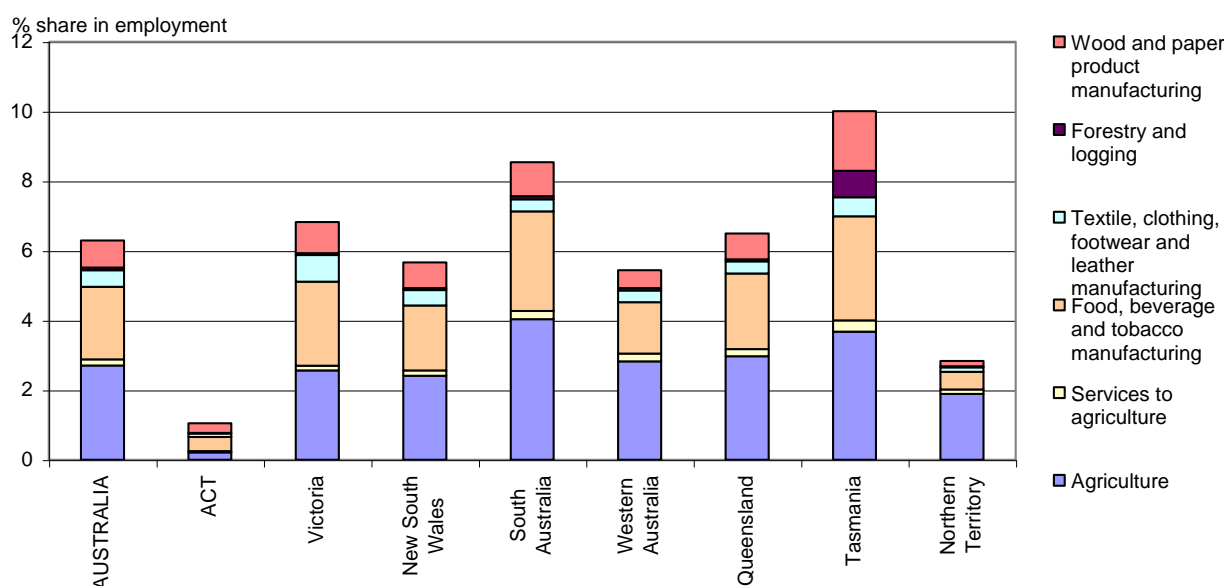
### **Employment**

In the 2006 Census, 246 600 people indicated that they were employed in agricultural production at the farm level, representing 2.7% of national employment (Figure 6). Agriculture accounts for 4% of employment in South Australia, and is also relatively more important than the national average in Tasmania, Queensland and Western Australia. In comparison, agriculture accounts for only 2% of employment in the Northern Territory and 0.2% in ACT.

Services to agriculture account for a further 0.2% of national employment, and this category is relatively more constant across States/Territories. Up-stream activities are more important. The food, beverage and tobacco manufacturing sector contributes 2% to national employment, accounting for around 3% of employment in Tasmania and South Australia. The textile, clothing, footwear and leather manufacturing sector, while only accounting for 0.5% of national employment, accounts for almost 1% of employment in Victoria. Altogether these agro-food industries account for 2.7% of employment.

Forestry and logging accounts for only 0.1% of national employment. However, it accounts for almost 1% of employment in Tasmania and for less than 0.05% in ACT and the Northern Territory. The wood and paper product manufacturing sector is also relatively more important in Tasmania than in the other States/Territories.

**Figure 6. Share of agriculture, forestry and related industries in employment by State/Territory, 2006**



1. The five sectors in this analysis are composed of ANZSIC Subdivisions 01 (Agriculture), 03 (Forestry and logging), 21 (Food, beverage and tobacco manufacturing), 22 (Textile, clothing, footwear and leather manufacturing), 23 (Wood and paper product manufacturing) and Group 021 (Services to agriculture).

Source: ABS (2007d).

Agriculture plays a much more significant role in employment in rural Australia (Table 6). At the national level, one in five persons employed in CAs classified in the Rural Balance category define themselves as being employed in agricultural production. By contrast, less than 1% of those employed in Urban areas are employed in agriculture. Agriculture is relatively more important to Rural areas of South Australia and Western Australia, and less so in Tasmania, Northern Territory and ACT.

**Table 6. Share of agriculture employment in SOS urban/rural classification by State/Territory, 2006**

Section of State	Australia	ACT	Victoria	New South Wales	South Australia	Western Australia	Queensland	Tasmania	Northern Territory
National/State/Territory	2.7	0.2	2.6	2.4	4.0	2.8	3.0	3.7	1.9
Rural	17.5	9.6	18.9	17.3	21.9	19.9	15.8	10.7	9.4
Urban	0.7	0.2	0.6	0.6	1.1	0.7	0.8	0.9	0.4
Rural Balance	20.1	12.7	21.2	20.1	25.3	23.5	17.8	13.0	15.6
Bounded	5.4	0.0	6.3	4.4	8.7	7.0	4.7	3.5	1.3
Other Urban	2.1	0.0	2.1	2.1	3.6	1.7	2.5	1.2	0.4
Major Urban	0.3	0.2	0.3	0.2	0.5	0.4	0.3	0.3	0.0

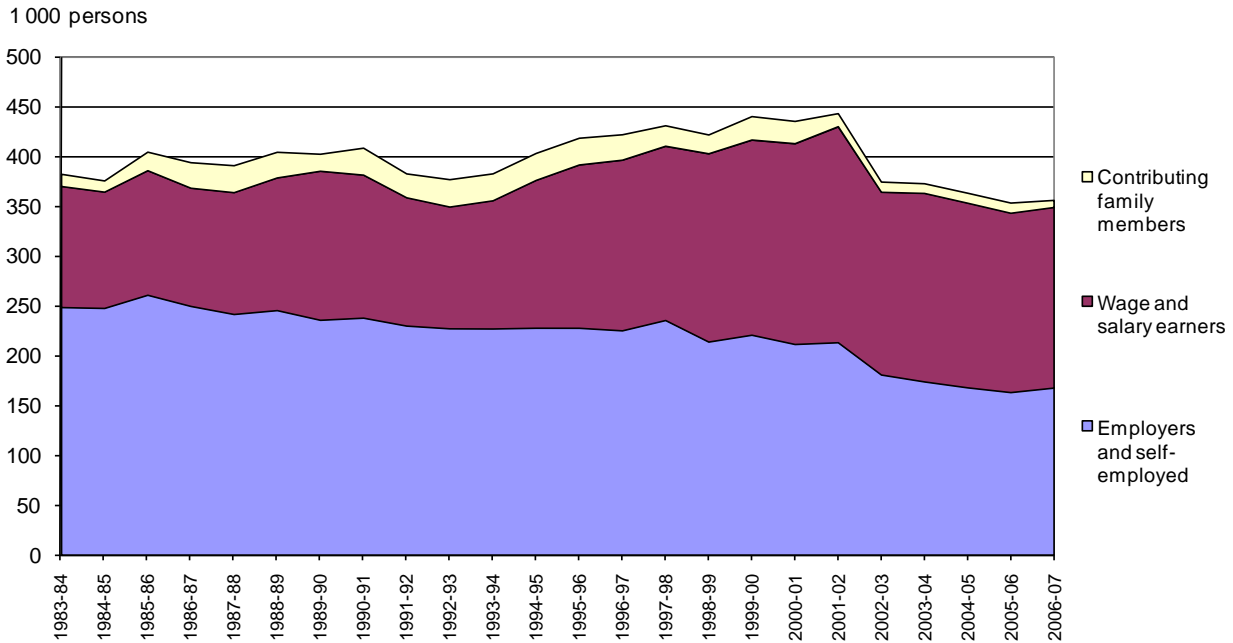
1. ANZSIC Subdivision 01 (Agriculture).

Source: ABS (2007d).

At the local government level, agriculture makes an even greater contribution: ranging from 50% and higher throughout most of the Western Australian wheat-sheep belt, *e.g.* 71% in the Local Government Area (LGA) of Kent and 68% in both Murchison and Wiluna LGAs; and in western and south central New South Wales, *e.g.* 70% in Windouran and 69% in Conargo (Haberhorn *et al.*, 2004).

Between 1983-44 and 2001-02 total agricultural employment increased by 16%, a little under 1% per annum (Figure 7). This increase occurred despite some large job losses in the sheep and broadacre industries in the early 1990s and a severe drought in 1994-95 which result in about 6 000 job losses. By comparison, the drought in 2002-03 had a significant impact on employment, with the loss of around 70 000 jobs, or 15% of employment over the 12 months to June 2003 (PC, 2005). Consequently agriculture employs around 7% fewer workers in the mid-2000s than in the mid-1980s.

**Figure 7. Composition of agricultural employment, 1984-2007**



Source: ABARE (2007).

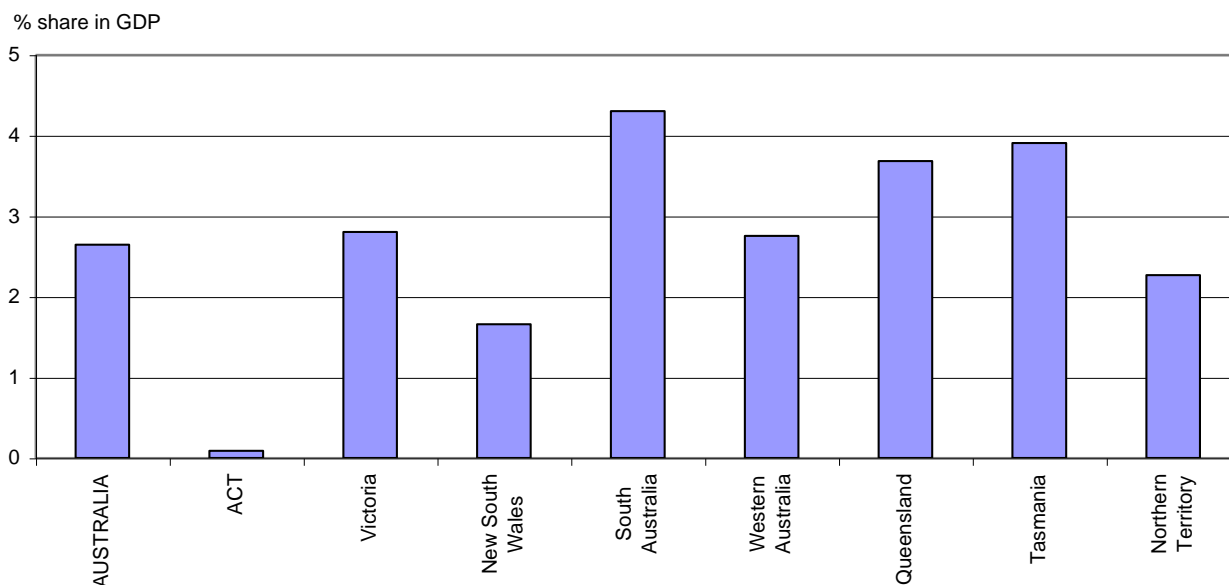
There has been a change in the composition of employment on Australian farms, with a decline in the proportion of employers/self-employed and contributing family workers, and an increase in the proportion of employees. This can be explained by factors such as the declining number of farms and the trend towards larger farm sizes. Demographic changes such as smaller family sizes (fewer children to help on the farm) and other influences, such as more family members working off-farm, have also reduced the supply of family labour and, hence, increased the need for hired labour (PC, 2005).

These factors have also contributed towards the rapid growth in employment in agricultural services. Over the two decades to 2003-04, employment in this industry increased by almost 70%, or by around 10 000 jobs. Demand for specialist contractors and consultants has also risen due to the increased knowledge and skills requirement of farmers. With the growing complexity of farm management, farmers are hiring or leasing machinery and equipment, buying in services such as marketing and business management services, and seeking advice in areas such as agronomy (PC, 2005).

### **Gross Domestic Product**

In 2005-06, primary production (agriculture, forestry, fishing and services to agriculture) accounted for 2.8% of GDP. Agricultural production dominates this category, contributing around 95% to the value of output from primary production. Primary production plays a slightly more significant role in the economies of South Australia, Tasmania and Queensland, but is less significant in the Northern Territory, New South Wales and ACT (Figure 8).

**Figure 8. Share of agriculture, forestry and fishing in GDP by State/Territory, 2005-06**

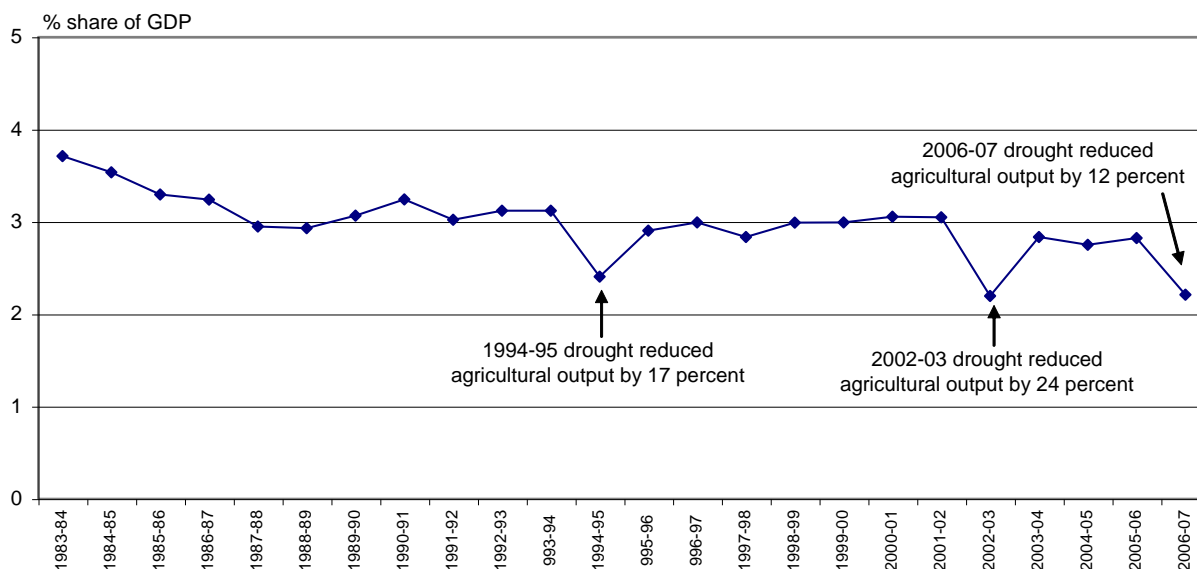


ANZSIC Division A (Agriculture, Forestry and Fishing). A further breakdown into ANZIC sub-divisions at the state level is not possible.  
 Source: ABS (2007c).

Analysing agriculture’s contribution to GDP over time reveals two important points (Figure 9). While it has fallen since the mid-1980s, where it average around 3.5% of GDP, agriculture has remained “stable” at around 3% of GDP throughout the 1990s and into the 2000s. This relatively constant share has occurred during a time in which the Australian economy has almost doubled in size in real terms, reflecting strong

growth in the services, mining and manufacturing sectors. Second, around this “stable” share of GDP there are some significant variations resulting from severe drought conditions.<sup>8</sup>

**Figure 9. Share of agriculture in GDP, 1984-2007**



Source: ABARE (2007).

In the face of declining terms of trade, agriculture has been able to maintain a relatively constant share of GDP through an increase in the volume of farm output, which has risen by more than 50% since the mid-1980s. Australian farmers have been able to remain internationally competitive and sustain their businesses and incomes largely through productivity growth and a switch to more intensive forms of agricultural production. Total factor productivity on Australian farms (essentially the value of output relative to the value of inputs used) has risen strongly for the grains and cropping industry – averaging 2.7% a year from 1977-78 to 2003-04 – but significantly less for sheep, beef and dairy (ABARE, 2006).

A significant part of the differences in relative performance between the grains and livestock industries reflects the gains to the cropping sector from increased mechanization (including the employment of satellite technology to aid in land use decisions and to guide and control spraying and cultivation equipment), improved herbicides and pesticides, better rotations and higher yielding varieties. The distribution of grain production appears to be a key factor contributing to observed differences in productivity growth across regions, although resource quality, for example, the inherent productive capacity of the land or the presence of land degradation, is another contributing factor (PC, 2005).

8. Although accounting for only 3% of, significant drought events demonstrate the importance of agriculture to overall economic importance. The 2002-03 drought, for example, which led to a 15% decline in the gross value of agricultural production led to a decline in Australian GDP of around 1% (Lu and Hedley, 2004).

## **Diversification of activities by farm households in rural areas**

Over the past twenty years there has been considerable change in the commodity composition of Australian agricultural production. There have been large rises in the gross value of beef and veal (partly because of more cattle being finished in feedlots), and in wine grape and horticultural production, contrasting with a falling value for wheat and sugar crops (reflecting declining prices) and wool production (lower wool prices and markedly lower sheep numbers). Consistently higher returns from cropping over the past decade have encouraged the movement of resources invested from sheep to grains production (ABARE, 2006). The period has also been marked by a “diversification” into new agricultural industries such as wildflowers, game meats, and native foods including aniseed, myrtle, Davidson’s plum, lemon aspen, lemon myrtle, mountain pepper, quandong, wild limes and wattleseed (PC, 2005).

While these trends are important, this report discusses in more detail farm household diversification *away* from agricultural production, identifying two major forms: the development of on-farm, non-agricultural enterprises and off-farm employment.

### ***On-farm, non-agricultural enterprise diversification***

As discussed in section 3.1, there has been on-farm diversification into plantation forest production – both smaller growers and farmers involved in leasehold/joint venture arrangements. Unfortunately separate farm forest data within the National Forestry Inventory is only available up until the year 2000. The total rate of new plantings by smaller growers (*i.e.* those wholly owned and managed by individual landowners) increased from less than 5 000 hectares per year in the mid-1980s to over 22 000 hectares per year in the mid-1990s (Wood *et al.*, 2001). Using 5 hectares as their best estimate as to the average size of a small grower holding, it is suggested that approximately 13 400 landowners own and manage their own commercial forest plantation (Stephens *et al.*, 2001). In terms of those involved in leasehold/joint venture arrangements, an estimate of 40 hectares as the average plantation size would indicate the involvement of a further 4 200 landholders.

In terms of other forms of non-agricultural, on-farm diversification, three reports on farm diversification prepared for the Rural Industries Research and Development Corporation (RIRDC) include the following examples (Campbell *et al.*, 2002; Meredith, 2003; Medhurst and Seagrave, 2007). No information is available as to the number of farmers undertaking these forms of diversification, although it is likely to be far fewer than those involved in diversification into farm forestry, or those who have diversified into the production of the non-traditional agricultural commodities described above.

- Farm tourism (considered in depth in section 6).
- Aquaculture, *e.g.* trout and marron (a very large native, freshwater crayfish).
- Squab farming and processing.
- Effluent treatment.
- Dairy processing (specialty cheese).
- Garment manufacturing from own wool.
- Essential oil production (including tea-tree, eucalyptus, lavender, parsley, peppermint and dill).

### *Off-farm employment*

Off-farm employment has become increasingly important to maintaining family farm incomes. Over the period 1989-90 to 2002-03, survey data collected by ABARE on broadacre<sup>9</sup> farm families reveals that:

- the proportion of farm families deriving a share of their income from off-farm wages and salaries<sup>10</sup> increased from 30% to 45%;
- the average number of off-farm hours worked by spouses (in most cases the female partner) more than doubled, from 4 to 9 hours;
- the average number of off-farm hours worked by farm operators increased by about one hour per week to an average of 4 hours per week;
- the average income earned from off-farm wages and salaries more than doubled in real terms – from AUD 15 000 (31% of the average income of AUD 82 000) to around AUD 33 500 per year (37% of the average farm income of AUD 137 500); and
- the contribution of off-farm wages and salaries averaged around 40% of total income over the period, not being less than 30% in any single year. Variations in the contribution of off-farm wages and salaries between years largely reflect the volatility of income from farm production.

The increasing importance of off-farm employment reflects, in part, some general social trends such as the increasing participation of women in the workforce and the incidence of multiple job-holdings (PC, 2005). Off-farm employment (both for farm operators and spouses) tends to be lower for those involved in industries with greater on farm labour requirements, such as dairying. For example, in 1996-97, the share of operators and spouses with off-farm employment in the dairying industry was around 20 and 14 percentage points lower, respectively, than the share for those involved in broadacre industries (Rasheed *et al.* 1998).

Other than participation rates, notable gender differences also occur in terms of the location of off-farm work and the distribution of off-farm jobs by occupation and industry. Garnaut *et al.* (1999) found that around 84% of women with off-farm jobs work in towns, with two thirds working in an urban centre with a population of more than 20 000. Women working off-farm largely work in managerial or professional occupations in the education (34%) and health and community services industries (22%). In contrast, just over 40% of men with off-farm jobs work in town, while 32% work on other farms. The most common occupations for men working off-farm were labourers (42%) and tradespersons (23%), with almost as many men working in off-farm jobs in the agriculture, forestry and fishing sector (47%) as in all other industries combined.

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9. Broadacre farms include wheat and other crops, mixed livestock-crops, sheep, beef and sheep-beef industries.

10. Off-farm wages and salaries excludes income from employment in a business owned or part-owned by the operator or spouse.

## Factors enhancing/limiting farm household diversification into non-agricultural activities

The main explanation for farm household diversification in Australia has been a desire on the part of farm households to establish an *alternative source of income*. A study of on-farm diversification concluded that “the most commonly cited benefit ... was the levelling out of farm income, both throughout the calendar year and over a number of years... Farming families viewed diversification as a way of ‘not having all your eggs in one basket’” (Medhurst and Seagrave, 2007). In reviewing the role of off-farm income, another report noted that “increasing off-farm income characterises the response of many Australian farmers to declining income parity with non-farm employment... This strategy could also represent an alternative to increasing the farm’s size. In addition, off-farm income may be part of a risk management strategy” (McColl *et al.*, 1997).

Three main drivers can be identified behind this desire: a long-term decrease in the terms of trade experience by many farmers; increasingly severe and frequent droughts; and a *reduction in support* to agricultural producers. While support to Australian farmers is relatively low in comparison to other OECD countries, some industries such as dairy, tobacco and sugar received considerably higher levels of border protection and financial assistance than others. Consequently, policy reforms in these sectors during the 1990s and early 2000s reduced the financial viability of some operations, forcing farmers to consider their alternatives such as increasing farm size, changing to an alternative agricultural production, finding off-farm income, venturing into non-agricultural production, etc. “Furthermore, government intervention in the past, particularly in marketing and adjustment, has limited the development of risk management instruments and raised expectations that assistance would be available from governments in times of difficulty” (McColl *et al.*, 1997).

Researchers also point out that diversifying an existing farm business to incorporate alternative enterprises is not a risk-less exercise. Diversification often involves significant financial outlay, development of *new skills*, access to new resources and most importantly an ability to create or respond to new market opportunities. A detailed financial evaluation of ten farms who had diversified into on-farm, non-agricultural production found that only one had recouped the costs invested in diversifying within two years while another still has not reached breakeven point after 15 years (Campbell *et al.*, 2002).

In this regard the Agriculture Advancing Australia (AAA) Farm Help program is providing some assistance. Farm Help supports farming families in severe financial difficulties by offering income support and professional advice to develop a Pathways Plan to improve the farm’s financial position or to gain skills to obtain off-farm income or move out of farming. Re-establishment grants are available for eligible farmers who decide to leave the industry. The mid-term review of the program concluded that “farmers whose financial position had improved following participation in Farm Help attributed this positive outcome to changes in farming/management techniques (almost certainly prompted by professional advice) and the earning of off-farm income. Some 20% of respondents had increased their reliance on off-farm income in 2005” (SACES, 2006a). This aspect of the Farm Help program contrasts with the general thrust of AAA to make primary producers more competitive, sustainable and profitable.

A variety of *policy instruments* have been used by the Commonwealth and State/Territorial governments to encourage on-farm diversification into forestry, including research, extension, capacity building, market creation and grants. Examples of these include:

- The Joint Venture Agroforestry Program established in 1993 with the objective of providing knowledge to underpin profitable, sustainable and resilient agroforestry within Australian farming systems and landscape ([www.rirdc.gov.au/programs/aft.html](http://www.rirdc.gov.au/programs/aft.html)).

- The Commonwealth's National Farm Forestry program (NFF) operated from 1996 to 2001, through the Natural Heritage Trust. Its aim was to encourage the incorporation of commercial tree growing and management into farming systems for wood and non-wood production, increasing agricultural productivity and sustainable natural resource management by supporting the provision and communication of information that enabled growers, potential growers and/or traditional and non-traditional investors to make informed investment decisions. A review of the FFP concluded that the farm forestry sector would not be at its current stage of development without the Program, emphasizing the role it played in establishing farm forestry in the consciousness of the communities in which projects were conducted and the upskilling of hundreds of individuals (Tilbury, 2003).
- The NFF was aided at the regional level by the establishment of Regional Plantation Committees (RPCs), to promote information networks, increase the skill base, initiate demonstration projects and design regional strategies.
- To encourage private investment in forestry by demonstrating the potential of bluegum crops, the Western Australia Forest Product Commission (FPC) planted about 4,000 hectares of eucalyptus on farms along the State's west and south coasts in 1988 and 1989. The success of this planting led to a joint venture between a Japanese company and the FCP, resulting in the establishment of 20 000 hectares of eucalyptus in small farm woodlots and shelterbelts of 10 to 20 hectares (DAFF, 2002).
- The establishment of farm forests in North Queensland commenced on a significant scale in the 1990s with funding from the Community Rainforest Reforestation Program (BRS, 2006).

In August 2005, the commonwealth and federal governments issued a Farm Forestry National Action Statement (DAFF, 2005b). The NAS vision is to increase the adoption of commercial tree growing and management as a widely accepted part of Australian farming and as a component of regional natural resource planning for the production of wood and non-wood products, and natural resource management benefits. The actions emphasise information gathering, market facilitation, support for research, development and extension; liaison and policy co-ordination between states and agencies; forest certification; and the development of markets for environmental services.

While not directly targeting farmers, a number of changes to the *regulatory environment* during the 1990s were made which improved the market conditions for private investment into plantation forestry, making farm forestry a more viable alternative land use. These actions included the lifting of the export ban on log chips; measures to ensure that public agencies move to competitive neutrality, by separating their business and regulatory functions; changes to the tax regime, and the decision made by an increasing number of states to ban the harvesting of native wood (DAFF, 2002).

Despite these efforts, the fact that the total area established in forest is relatively small, that individual lots are small and widely dispersed make it difficult for farm forests to be commercially attractive (BRS, 2007). *Distance* from the market is important, particularly in a country as large as Australia. The stumpage price received by a grower can reduce by 12.5% by an additional 90 kilometres (Newman, 2002). Distance is also raised as an issue in terms of off-farm employment. Average incomes received from off-farm work tend to be lower for people living in remote locations, reflecting the more limited range of off-farm opportunities in these locations (Garnaut and Lim-Applegate 1998).

## Focus on farm tourism

### *Farm tourism in Australia*

Farm tourism in Australia is dominated by the *wine sector*. Of the 1 798 wineries in Australia in 2004, almost 80% (1 409) had cellar door facilities, with just over a third of these also serving meals and 14% providing on-site accommodation. During the year ending June 2007, there were 5.3 million domestic and 705 399 international visitors to Australian wineries, over 50% more than in 1999 (TRA, 2005). Wine tourism is an important revenue generator, especially for smaller wineries. In 2003, a Deloitte Touche Tohmatsu study of the wine tourism industry found that 14-25% of the total revenue of smaller wineries (AUD 0–10 million in total revenue) was from cellar door sales, and merchandise, restaurant and accommodation revenue, compared with 2.2-4.5% on average for larger wineries (Collins, 2005).

Outside the wine industry, farm tourism is not very significant within either the agricultural or tourism sectors of Australia as a whole but has been expanding. An important feature has been the development of “*farm trails*” around urban locations. For example, the Hawkesbury Harvest Farm Gate Trail began in 2000 as a strategy to support farmers in the region, widely referred to as ‘Sydney’s food bowl’. The Trail provides visitors with access to farms and farm produce, and farmers with direct sales of agricultural and other value-added products. As a result of its success, the organisation has expanded its activities to include farm open days, farmers markets and regional branding (<http://hawkesburyharvest.com.au>).

In terms of those providing accommodation/farm stay services, there are no national statistics available. The most comprehensive estimate suggests that there are 650 working farms in Australia providing such services (Ollenburg, 2006). These can include:

- accommodation – ranging from bed and breakfast, to self-contained facilities. These may be within the farm house, specially built accommodation or in farm building, such as shearer’s accommodation.
- farm stays – where guests live, eat and sometime work with the farming family<sup>11</sup>;
- opportunities to observe or participate in farm activities;
- camp sites – where tourists can pitch their tent, caravan etc.
- farm house restaurants or cafes;
- bird watching or bush walking adventures; and
- farm educational tours.

### *What factors explain the development (or lack of development) of farm tourism*

The *geographic location* of the farm plays a significant role in the opportunity to develop a tourism operation. The farm tourism industry in Australia is closely linked to major urban centres. Of the 650 farms in Ollenburg’s study a few are large, remote and luxurious, but the majority are small, family-priced and close to major population centres (Ollenburg, 2006). All the farm tourism operators in South West Tapestry are located no more than 29 kilometres for the nearest town, with an average distance of less than

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11. Australian Farm Tourism, a private company, operates an “Australian Farm Host” programme – an opportunity for overseas visitors including students, special interest and agricultural professional groups alike to experience rural and outback Australia staying with farmers and their families in the family homestead, with special program for those wishing to improve their English language skills ([www.australianfarmtourism.com.au](http://www.australianfarmtourism.com.au)).

10 kilometres (Ingram and Sherwood, 2002). Nearly 30% of the farms located in north-west region of Sydney have at some stage experimented with tourism (Knowd, 2001).

The *type of farming* enterprise also seems to be important. As discussed above, wine tourism dominates the industry. In fact, a tourism discussion paper released by the commonwealth government in 2002 noted that the dominance of this sector “generally results in the absence of effective partnerships and links with other sectors” (Australian Government, 2002). Outside wine, most farm tourism operates on sheep and beef farms, although there is a high proportion of tourism on farms producing outside the “mainstream” commodities, *e.g.* grazing alpacas (Ollenburg, 2006). The study commented on the under representation of some farm types, specifically dairy and sugar cane farms, suggesting that their absence may be due to the time commitment required to operate a dairy farm and the difficulty in making a sugar cane farm an attractive tourist package.

A number of studies have attempted to analyse the motivation of farm tourism operators in Australia, emphasising both *income and social drivers* for involvement. A survey of Victorian farm tourism in the mid-1990s showed that 78% of the farmers started tourism ventures for extra income. While the actual level of income gained from farm tourism was not significant, it did provide an alternative source of income which helped smooth out the normal troughs and peaks of farm income (Knowd, 2001). Alternatively, a study of farm stay operators in the South West Tapestry region of Western Australia concluded that the hosts’ “strongest motivations were meeting people, especially those with whom they shared a common interest... Hosts were also motivated to provide enjoyable holidays on the farm offering peace and tranquillity in a beautiful setting, meaningful activities for children and, above all, an opportunity for visitors to relax and revitalise themselves” (Ingram, 2002).

A recent survey of 250 farm tourism operators in Australia concluded that social motivations are marginally more important overall than economic motivations (Ollenburg and Buckley, 2007). For most operators both are important; and different motivations are dominant for different types of farm landholders and at different stages in farm, family, and business lifecycles. For some, tourism is a critical component of current income streams: for others it combines social opportunities with retirement income.

Studies also report on the *difficulties* encountered by farmers involved with farm tourism. Half the farmers who ventured into farm tourism in north west Sydney had withdrawn, citing reasons of “excessive additional work, no profit, too many conditions, or inadequate financial assistance” (Knowd, 2001). The study in South West Tapestry reports that some of the challenging aspects of running a farm tourism business including “having to deal with people you don’t like, dealing with people’s different habits and different value systems. This involves tensions in decision-making, and anxiety over personal safety and that of animals and one’s property, causing feelings of anger in the host” (Ingram and Sherwood, 2002). A study of two Landcare farm tours noted the difficulty farmers encountered in successfully accessing the local tourism marketing and distribution networks due to their unfamiliarity with the commission pricing structure of tourism as compared to the fixed price structure for agricultural commodities (Beeton, 2002).

In general, central government agencies have not played a significant role in the development of farm tourism. While tourism plays an important part in the Australian economy, with a large number of government programmes and initiatives to develop tourism business/facilities and attract visitors, farm tourism has, by and large, not been considered. For example, the 2003 Tourism White Paper identified several important niche markets for development: seniors, defence, culture and the arts, sport, backpackers, health, people with disabilities, caravanning and camping, cycling, food and wine, and agritourism

(Australian Government, 2003). However, while progress has been reported on other niche markets, including wine (Collins, 2005 and TRA, 2005), no action is reported on agritourism.<sup>12</sup>

Where policy action has been taken, these have been predominantly of a *facilitation* role at the State/local government level. For example, most State and some local governments have released “How to get started in farm tourism” type documents. State and local governments have also supported the development of “farm trails” by providing advice and facilitation, with some providing funding for the operation of the trail, *e.g.* employment of a program manager, development of brochures and web-sites.

Perhaps the best example is the Farm and Nature Tourism (FANT) program developed by the Sustainable Tourism Cooperative Research Centre, the Australian Regional Tourism Research Centre, AgForce and Tourism Queensland (<http://crctourism.com.au/farmtourism>). The program is designed to help landholders assess their property's tourism potential without having to make a huge investment in money or time. With the development of this tool, a more proactive program is being implemented to target farmers, involving a wider set of stakeholders, field days, upskilling workshops and evaluations. The intention is to establish “clusters” of farm and nature based tourism in rural and regional communities across Australia ([www.regionaltourism.com.au/ARTRC/documents/fantbusdev.pdf](http://www.regionaltourism.com.au/ARTRC/documents/fantbusdev.pdf)).

While wine tourism has benefited from growing consumer demand for wine, the Winemakers' Federation of Australia (WFA) has taken a number of steps to assist wine producers meet this demand. These include the development and implementation of a National Wine Tourism Strategy and associated Wine Tourism Strategic Business Plan (WFA, 2002). Although the Plan has now expired, wine tourism has been well incorporated into the latest overall industry strategy document *Wine Australia: Directions to 2025 – an industry strategy for sustainable success*, released in May 2007 (WFA, 2007).

In developing their strategy WFA recognized that improving the skills of the wine producer was vital: that the skills required to operate a cellar door are essentially those of the tourism industry not the wine industry. Consequently a range of *training and information* tools to assist growers have been developed. For example, the Wine Tourism Toolkit released in 2005, provides wine makers with a range of information about developing a business strategy, licensing and legislative issues in their State, etc ([www.wfa.org.au/o\\_overview.htm](http://www.wfa.org.au/o_overview.htm)). The development of the Toolkit was supported with grant funding from the Commonwealth Department of Industry, Tourism and Resources. WFA has also produced a web-based program that allows growers to accurately track the performance of their cellar door, restaurant and accommodation facilities, including comparisons with regional, state and national averages. ([www.cellardoormetrics.com.au](http://www.cellardoormetrics.com.au)).

As the wine industry demonstrates, the *internet* is playing an increasing role in the development of farm tourism, as a medium to both attract tourists and to provide education and tools to farmers. A recent review of the state of the tourism industry in Australia concluded that that the internet is particularly good for regional and niche products, an excellent tool for enhancing regional dispersion. However, it did note that the extent to which very small operators can take advantage of the online distribution may depend on the extent to which they can band together and work as a group. For example, the Bed & Breakfast and Farmstay Association of Queensland has recently signed an agreement with Wotif.com to use their online booking system (Fredline, Jago and Day, 2006).

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12. As revealed by a search on the Commonwealth Department of Resource, Energy and Tourism web-site [www.industry.gov.au](http://www.industry.gov.au).

## Multiplier effects of agriculture and other rural activities

Input-output tables for Australia are produced on a regular basis by ABS as part of the national account information. Since 1958/59, ABS has produced 19 national input-output tables, the most recent being released for the year 2001-02 (ABS, 2006b). Over the years these have been used produce multipliers at both the national and “regional” level. Most of the recent work has been based on the previously produced input-output table for the year 1996-97, which was released in 2001. At the national level, ABS has calculated output, gross value added and employment multipliers for 107 industry groupings. Table 7 presents the ranking of the agricultural sectors and selected other industries in terms of their gross value multiplier.

**Table 7. Value added multipliers for selected industries in Australia, 1996-97**

Industry	Gross value added multiplier	Ranking (Out of 107 industries)
Government administration	1.75	4
Services to agriculture; hunting and trapping	1.50	16
Bakery products	1.46	18
Accommodation, cafes and restaurants	1.46	19
Meat and meat products	1.43	27
Textile fibres, yarns and woven fabrics	1.42	30
Other wood products	1.41	33
Services to mining	1.40	36
Knitting mill products	1.40	37
Forestry and logging	1.37	46
Fruit and vegetable products	1.34	54
Leather and leather products	1.34	55
Iron and steel	1.34	56
Dairy products	1.32	59
Flour mill products and cereal foods	1.32	60
Poultry	1.31	62
Pigs	1.30	67
Beer and malt	1.30	68
Textile products	1.30	69
Wine and spirits	1.29	71
Iron ores	1.28	72
Coal; oil and gas	1.26	76
Beef cattle	1.25	78
Dairy cattle	1.25	79
Non-ferrous metal ores	1.25	80
Other agriculture	1.23	84
Oils and fats	1.23	85
Sheep	1.21	87
Other mining	1.21	88
Clothing	1.21	89
Pulp, paper and paperboard	1.19	92
Commercial fishing	1.17	93
Grains	1.16	95
Tobacco products	1.13	100

Source: ABS, Australian National Accounts: Input-Output Tables, 1996-97 (data available on request).

At the national level, agro-food industries (both up and down stream) in general have a higher gross value added multiplier than the agricultural sectors. Among the agricultural sectors, the livestock industries rank higher than grains. Compared with other natural resource based sectors, agricultural sectors rank alongside mining, above fishing, but below the multiplier for forestry and logging. At the national level, all these industries rank below government administration and the accommodation, cafes and restaurant industry.

A large number of studies have been undertaken to develop input-output tables and multipliers at a “regional” level in Australia, ranging from the State/Territory level down to local government areas containing a few thousand persons. These have been developed in order to assist with regional development in general (Johnson, 2001), or analyse the regional impact of a particular industry or project including mining (SACES, 2006b), irrigation (Meyer, 2005), plantation forestry development (Schirmer *et al.*, 2005), and public works expenditure. While they are all based on the national input-output tables prepared by ABS, it is very difficult to compare the resulting multipliers because of differences in the multipliers calculated, the methodology used (survey methods employed, assumptions on “import”/“export” flows, etc) and the industry/sector groupings chosen.

Some State/Territory governments have developed their own State level input-output tables and multipliers. Perhaps the most comprehensive is that done by Queensland Office of Government Statistician which has produced 1996-97 input-output tables and multipliers for the state of Queensland, covering the same 107 industry groupings as done by the ABS (Office of the Government Statistician, 2002). It has also produced 1996-97 input-output tables and multipliers at the both the state and regional level for a grouping of 37 industries (Office of the Government Statistician, 2004). Table 8 presents the value added and employment multipliers for a selection of the 37 industries for Queensland and the various regions within.

**Table 8. Value added and employment for selected industries in Queensland and regions, 1996-97**

Industry	Queensland	Brisbane- Moreton	Wide Bay- Burnett	Darling Downs	Fitzroy	Mackay	South West	Central West	Northern	North West	Far North
<b>Value added multipliers per AUD million of output</b>											
Sheep	1.02	na	na	0.9	na	na	0.8	0.7	na	0.7	na
Grains	0.99	1.0	0.9	0.8	0.8	0.6	0.8	na	na	na	0.7
Beef cattle	1.01	0.7	0.9	0.9	0.7	0.8	0.7	0.6	0.8	0.7	0.8
Dairy cattle and pigs	0.96	0.9	0.8	0.8	0.6	0.7	0.5	na	na	na	0.8
Other agriculture	1.03	1.0	1.0	0.8	0.7	0.6	0.7	0.5	0.9	0.5	0.9
Sugar cane growing	0.98	1.0	0.9	na	na	0.8	na	na	0.8	na	0.8
Forestry and fishing	0.93	1.1	0.9	0.8	0.5	0.6	na	na	0.7	0.4	0.7
Coal: oil and gas	1.12	1.2	0.9	0.9	0.9	1.0	0.8	na	1.0	na	na
Other mining	1.10	1.2	0.8	0.9	0.9	0.8	0.7	0.6	1.0	0.7	0.8
Food manufacturing	1.06	0.9	0.8	0.8	0.6	0.8	0.8	0.5	0.8	0.6	0.9
Accommodation, cafes and restaurants	1.18	1.1	1.0	0.9	0.9	0.9	0.8	0.7	0.9	0.7	0.9
Government administration and defence	1.40	1.4	1.2	1.1	1.2	1.2	1.1	1.0	1.0	1.1	1.3
<b>Employment multipliers per AUD million of output <sup>(1)</sup></b>											
Sheep	17.91	na	na	19.6	na	na	15.8	9.0	na	10.9	na
Grains	27.35	35.8	27.8	27.7	16.7	17.9	18.0	na	na	na	19.4
Beef cattle	18.21	19.9	19.0	13.2	14.1	12.5	13.1	12.5	16.8	10.1	15.6
Dairy cattle and pigs	20.51	19.8	19.4	15.9	13.6	18.1	10.7	na	na	na	16.2
Other agriculture	20.30	19.1	24.2	9.7	14.3	15.2	13.1	13.4	21.4	15.4	22.7
Sugar cane growing	15.31	17.3	17.3	na	na	9.4	na	na	12.9	na	14.5
Forestry and fishing	17.75	25.2	16.2	21.6	9.4	8.2	na	na	10.3	5.7	12.4
Coal: oil and gas	9.89	17.9	7.2	6.9	7.2	7.3	3.6	na	9.1	na	na
Other mining	13.78	17.6	9.2	13.8	7.8	6.2	5.1	6.3	13.7	6.3	9.5
Food manufacturing	17.35	13.7	13.4	12.3	10.9	10.6	13.3	10.0	11.6	9.7	15.2
Accommodation, cafes and restaurants	21.82	20.6	17.5	17.7	16.7	17.0	14.4	13.0	19.8	13.4	20.4
Government administration and defence	23.32	22.6	19.1	19.0	19.1	17.9	15.8	15.2	18.6	18.7	22.0

1. Employment needed to produce one AUD million output.

Source: Office of the Government Statistician, 2004.

One of the difficulties in producing regional multipliers is the lack of data. The report notes that “due to the lack of regional data, a substantial proportion of these tables have been synthetically estimated. This lack of data has been compensated to some extent by compiling the regional tables as one large matrix which incorporates both the regional tables and the interregional trade flows and ensuring this matrix consolidates to the Queensland I-O table.”

A number of observations can be made. First, in general the multiplier effects within each region are smaller than those at the state level. This is because some of the value added and employment impacts from a AUD million change in output for the industry occur outside the region. For each industry one can observe some significant difference in the multiplier effects at the regional level than at the state level. Consequently, a state level (or national level) multiplier is not necessary a good indicator of a regional multiplier.

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## Annex 1.

### Background Table and Maps

**Annex Table 1. Percentage share of States/Territories in total land, population, employment and GSP, 2001**

State/Territory	Land	Population	Employment	Gross State Product (GSP)
Australia (million)	7 692 km <sup>2</sup>	18 769 persons	8 299 persons	689 262 AUD 2006-07
New South Wales	10	34	33	34
Victoria	3	25	25	26
Queensland	22	19	19	16
South Australia	13	8	8	7
Western Australia	33	10	10	11
Tasmania	1	2	2	2
Northern Territories	18	1	1	1
Australian Capital Territories	0.03	2	2	2

Source: Australian Bureau of Statistics data.

**Annex Map 1. The Remoteness Area (RA) classification of Australia, 2001**



Source: ABS (2003a).

**Annex Map 2. Australian agricultural zones, 2003**



*Source: DAFF (2005).*