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# Long term population decline and the impacts of COVID-19 in South Australia's regions



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Paper received 16 August 2021; accepted 9 November 2021; published 29 November 2021

## Abstract

### Background

South Australian regions have been given little attention in discussions on population decline.

### Aims

This paper aims to examine the nature and incidence of population decline in South Australia as well as evaluate the potential impacts of COVID-19.

### Data and methods

Estimated Resident Population data from 2001 to 2020, and Census data from 2006 and 2016, were used to investigate demographic and economic change. Measures of population change, age structure, employment and components of population change were used.

### Results

Population decline has been a feature of South Australia's regions for decades and continues to be so as more of the population concentrates in its capital and regional centres where greater opportunities of employment and greater provisions of amenities are available. COVID-19 has the potential to accelerate this change if South Australia's vulnerable regions are not able to absorb the economic impacts the pandemic poses.

### Conclusions

A strong driver of population decline in the regions is employment loss in core industries. Strategies that support these industries or otherwise aim to stimulate economic activity in these communities are required to moderate further decline in South Australia's regions especially as the economy recovers from the impacts of COVID-19.

### Key words

Population decline; structural ageing; employment loss; loss of services; South Australia; COVID-19.

## 1. Introduction

Australia's rural population peaked in 1911 soon after the nation's agricultural frontier was established in the wake of colonisation by Europeans. By 1954, Australia had developed considerable metropolitan primacy, with 50% or more of State and Territory populations resident in their capitals (BITRE 2014). Over the past 110 years rural populations have fallen in many parts of Australia, with country towns experiencing decline and, in some instances, disappearing entirely (BITRE 2014). This process has been especially evident in South Australia where farm aggregation, the shift of retail functions from local towns to larger urban centres, the decline of some long-established industries, and the withdrawal of financial services from many centres (Beer et al. 2003) has seen populations fall. Nationally, there have been a number of studies examining the decline of rural and regional populations (McKenzie 1994), but much less attention has been paid to this issue in South Australia where rural populations are small even by the standards of other parts of Australia.

This paper sets out to shed light on the nature, incidence and distribution of population decline in regional South Australia, paying attention to the processes of both demographic and economic change. The paper examines key drivers of change including structural ageing, the loss of employment, geographic distribution, overseas migration and the potential impacts of COVID-19. It examines ABS data as a lens into the processes of change in South Australia before commenting on the capacity of both short- and long-term effects of the COVID-19 pandemic to usher in a change in trajectories. Its findings are used to draw conclusions on how best to address population loss in South Australia.

## 2. Data and methods

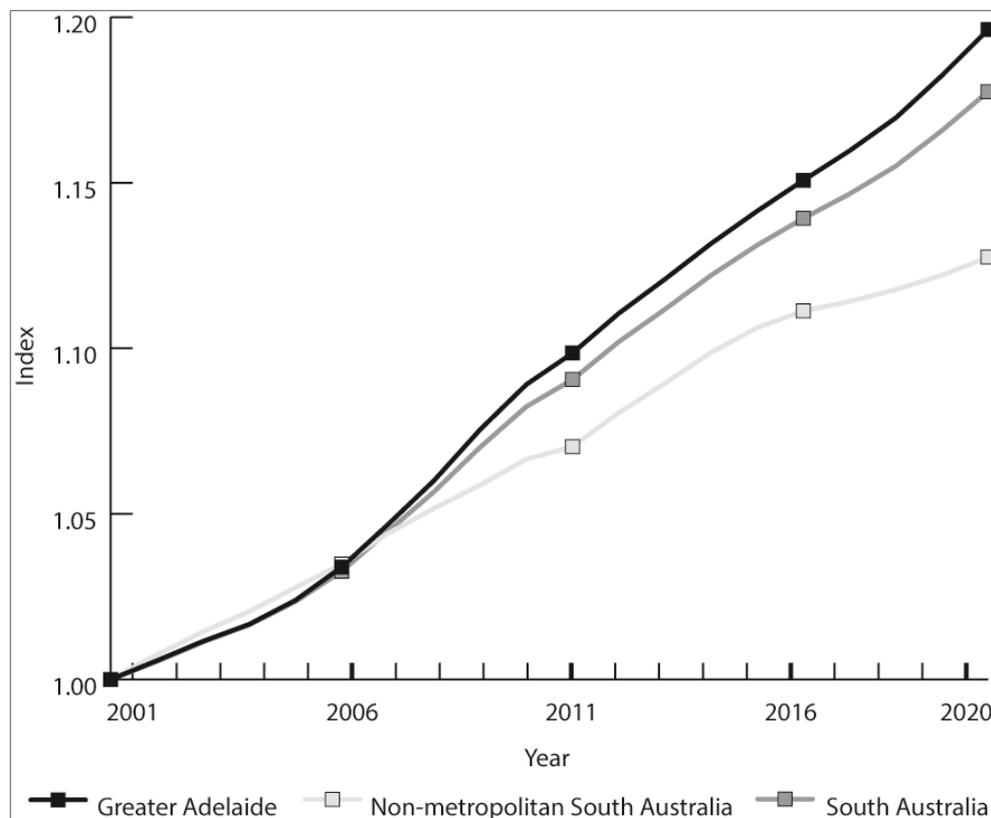
This paper draws on data from the Australian Bureau of Statistics (ABS), especially the most recent Estimated Resident Population (ERP) data. The research examined ERP data over the past 20 years to assess long-term patterns of population change and age structure. Additionally, 2006 and 2016 Census data was used to assess the change of employment over time in regions experiencing population decline. The primary geographical level chosen for analysis was Local Government Areas (LGAs). LGAs were analysed as they provide an effective geography for comparison, and one which is widely accepted in policy debates. It is also readily understood by a broad audience, with many residents identifying strongly with their local government and its territory.

## 3. Population decline in South Australia

### 3.1. Patterns of change

Population change in Greater Adelaide and non-metropolitan South Australia between 2001 and 2020 is shown in Figure 1. Proportional population increase in the first intercensal period to 2006 was similar in Adelaide and non-metropolitan regions, and again between 2011 and 2016, but it is clear that there has been a distinct divergence in growth rates between Greater Adelaide and regional South Australia in the intercensal period between 2006 to 2011, and again between 2016 and 2020. Where this divergence between metropolitan and non-metropolitan South Australia has

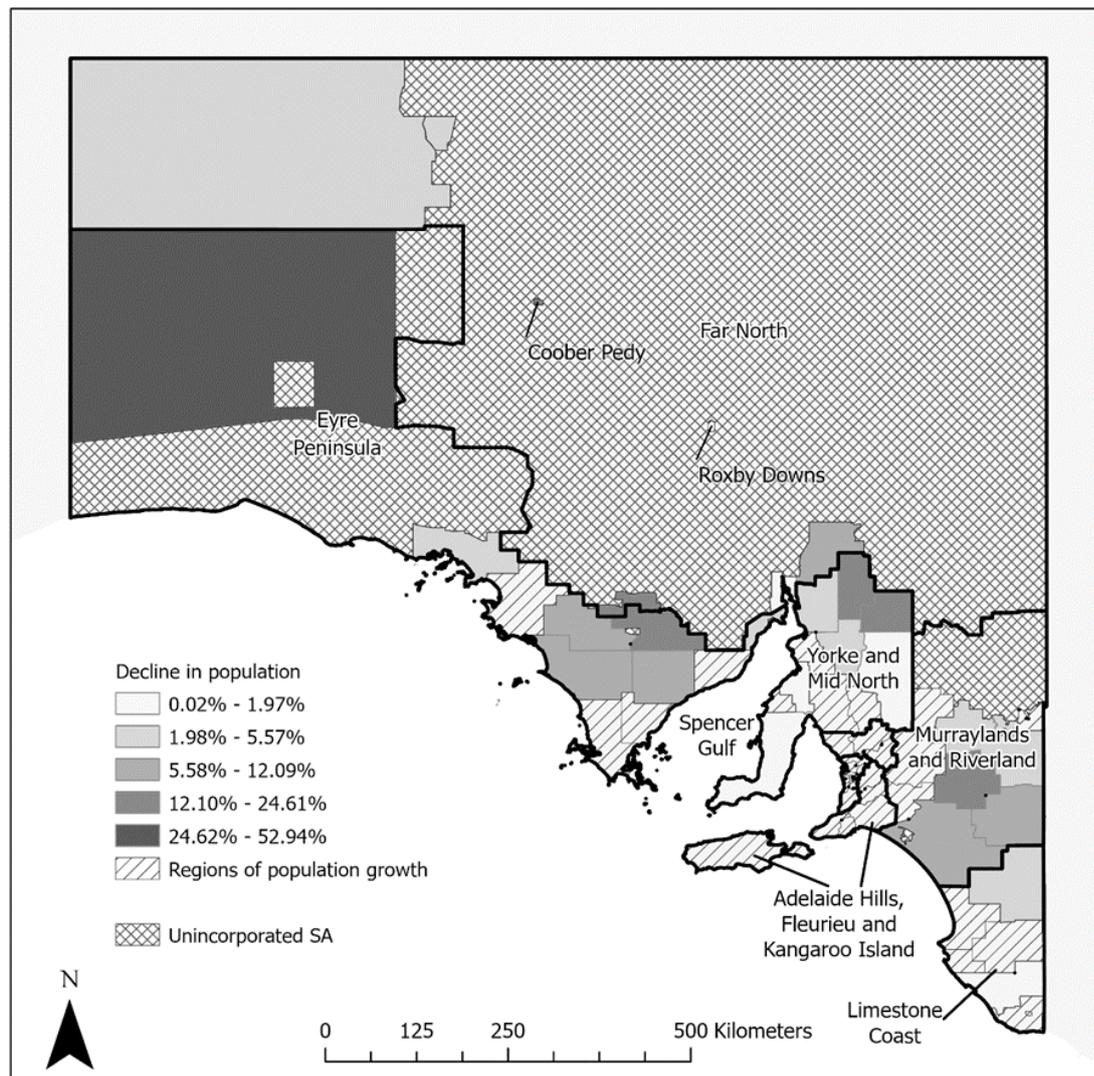
occurred geographically can be seen in Figure 2, which shows regions that have experienced population decline.



**Figure 1: South Australia Population Growth Index (2001=1.00), Greater Adelaide and non-metropolitan South Australia**

Source: ABS.Stat Estimated Resident Population Database.

Since 2001, South Australia's population decline has been most marked in the Eyre Peninsula, the Far North, the Mid North and the Murraylands and Riverland. Very minor population loss has occurred in the Yorke Peninsula and along the Limestone Coast. The top 10 LGAs ranked by percentage population decline are listed in Table 1, with the estimated numerical population loss also presented. The table shows that the South Australian regions that declined in population are distinctive. The greatest losses occurred in Maralinga Tjarutja and Coober Pedy located to the north of the Eyre Peninsula and in the Far North (both are notable for their remoteness and reduced employment prospects). Peterborough and Orroroo/Carrieton LGAs, ranked third and fourth on this metric, are located in the outer Mid North. They have experienced long-term decline in key industries including, manufacturing, agriculture and mining. Ranks five through to 10 were shared between the regions of the upper east Eyre Peninsula (Kimba; Elliston; Wudinna and Cleve); and the Murraylands and Riverland (Karoonda East Murray; Southern Mallee) and these localities have experienced declines in employment in agricultural and mining industries.



**Figure 2:** Decline in LGA populations in South Australia, 2001-20

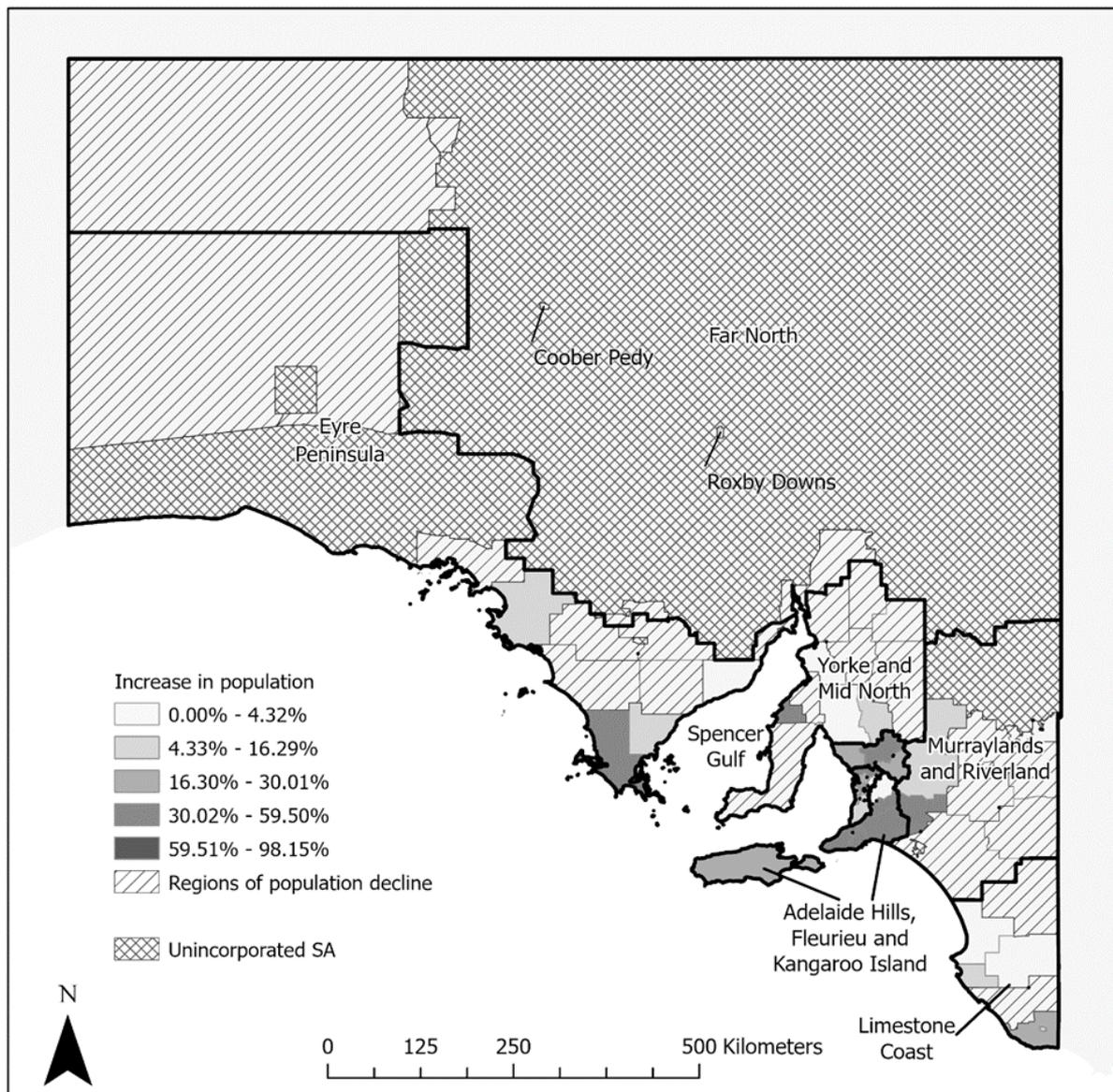
Source: ABS.Stat Estimated Resident Population Database.

**Table 1:** Top ten LGAs ranked by percentage population decline, 2001-20

LGA	Region	Population		Population change	
		2001	2020	Number	Per cent
1 Maralinga Tjarutja	Eyre Peninsula	136	64	-72	-52.9
2 Coober Pedy	Far North	2,414	1,820	-594	-41.6
3 Peterborough	Mid North	2,014	1,668	-346	-24.6
4 Orroroo/ Carrieton	Mid North	1,013	844	-169	-17.2
5 Kimba	Eyre Peninsula	1,229	1,056	-173	-16.7
6 Karoonda East Murray	Murraylands and Riverland	1,276	1,101	-175	-14.1
7 Elliston	Eyre Peninsula	1,150	1,011	-139	-13.7
8 Wudinna	Eyre Peninsula	1,449	1,307	-142	-12.1
9 Southern Mallee	Murraylands and Riverland	2,300	2,089	-211	-9.8
10 Cleve	Eyre Peninsula	1,939	1,780	-159	-9.2
Total		14,920	12,740	-2,180	-14.6

Source: ABS.Stat Estimated Resident Population Database.

Of the ten LGAs to experience the greatest decline in population in South Australia between 2001 and 2020, nine experienced a loss of population of 10% or more, with Cleve placing tenth at 9.2%. This makes for an estimated total loss of 2,180 people from the fastest shrinking LGAs. The cumulative population loss of all LGAs to experience a decline since 2001 was 5,348 people. In addition, Unincorporated SA, while not an LGA, had a population decline of 2,458 people, or 58.4%, from 5,911 to 3,453, during the same period. It is important to acknowledge, however, the highly mobile nature of many Aboriginal Australians and they may have been temporarily absent from the place they would identify as 'home' on Census night affecting the data on which Estimated Resident Population is based.



**Figure 3: Growth in LGA populations in South Australia, 2001-20**

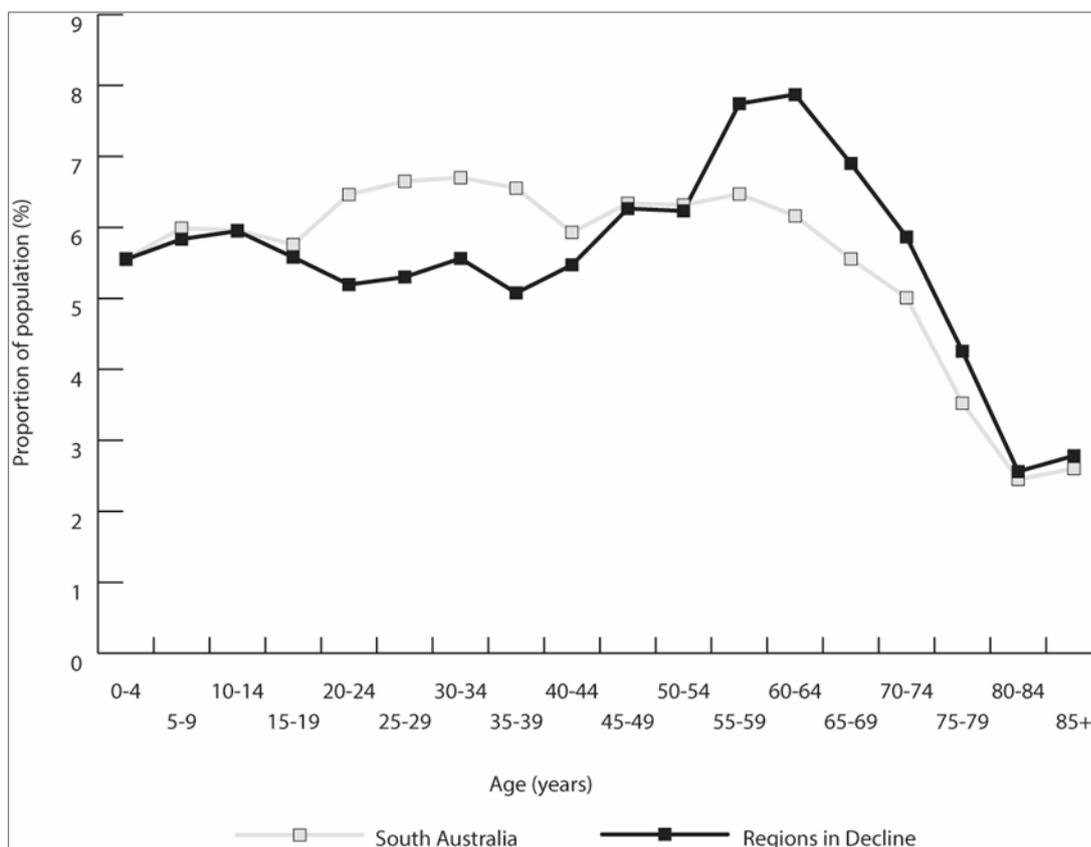
Source: ABS.Stat Estimated Resident Population Database.

While there has been significant depopulation within the LGAs in Table 1, Figure 3 shows evidence of population growth in some parts of regional South Australia. These include the regions that make up the Adelaide metropolitan commuting region along the Fleurieu Peninsula, up to the lower Mid North and east to the Murraylands; Port Pirie, a Mid North regional centre; a number of coastal centres along

the Eyre Peninsula; the Copper Coast at the top of the Yorke Peninsula; Kangaroo Island off the coast of the Fleurieu Peninsula; several LGAs along the Limestone Coast; Renmark Paringa along the Murray River in the north-eastern Murraylands and Riverland; and Roxby Downs, a mining town in the Far North of South Australia.

### 3.2. Age, employment and service provision

To help understand the population trends shown above, we examined population age structure, contraction of employment opportunities, and loss of ancillary services. Figure 4 compares the 2020 age structure of all LGAs to experience population decline between 2001 and 2020 with the age structure of the whole of South Australia. In regions showing population decline, the average proportion of the population aged between 20 and 44 was significantly lower than the state average while the proportion aged 55+ was above the state average. This distribution indicates that regions experiencing population decline have lower rates of retention of young adults than the rest of South Australia. Furthermore, the majority of adults in declining regions were aged 45 years or older, an age group which is “dominantly post-reproductive” (Smailes et al. 2019 p 107). A lower retention of young adults and a mostly post-reproductive adult population indicates these regions are vulnerable to, if not already experiencing, natural decrease where the number of deaths exceeds births.



**Figure 4:** Age structure of regions with population decline compared to South Australia, 2020

Source: ABS.Stat Estimated Resident Population Database.

Employment loss as a driver of population decline was also examined. Table 2 shows the top ten LGAs ranked by loss of employed persons as a percentage. Each LGA, with the exception of Franklin Harbour, has been identified in Figure 2 to have experienced a decline in resident population. In

aggregate 1,584 jobs were lost from these regions. There appears to be a close relationship in these areas between job loss and population loss and this represents a critical juncture in the economies of these places (Beer et al. 2021).

**Table 2: Top ten LGAs ranked by loss of employed persons, 2006 to 2016**

	LGA	Region	Employment change	
			Number	Per cent
1	Maralinga Tjarutja	Eyre Peninsula	-16	-53.3
2	Anangu Pitjantjatjara	Far North	-297	-36.9
3	Kimba	Eyre Peninsula	-89	-14.5
4	Karoonda East Murray	Murraylands and Riverland	-81	-14.4
5	Southern Mallee	Murraylands and Riverland	-128	-11.5
6	Elliston	Eyre Peninsula	-62	-11.0
7	Cleve	Eyre Peninsula	-101	-10.6
8	The Coorong	Murraylands and Riverland	-265	-10.4
9	Franklin Harbour	Eyre Peninsula	-61	-10.2
10	Berri and Barmera	Murraylands and Riverland	-484	-10.1
	Total		-1,584	-12.6

Source: 2006 and 2016 Censuses, Place of Usual Residence databases.

To assess the relationship between the loss of ancillary services in the regions and population decline, change in employment by sector was examined (Table 3). Critically, some 185 jobs in the service industries of health and education were lost from high population loss LGAs in rural South Australia, which suggests service industry contraction had a correlative, but not determinant, role in their shrinking populations.

**Table 3: Top ten LGAs ranked by loss of employed persons in health and education, 2006 to 2016**

	LGA	Region	Employment change	
			Number	Per cent
1	Maralinga Tjarutja	Eyre Peninsula	-4	-57.1
2	Elliston	Eyre Peninsula	-24	-21.2
3	Karoonda East Murray	Murraylands and Riverland	-17	-16.8
4	Anangu Pitjantjatjara	Far North	-36	-12.9
5	Franklin Harbour	Eyre Peninsula	-9	-8.6
6	Kimba	Eyre Peninsula	-6	-7.5
7	Cleve	Eyre Peninsula	-9	-6.6
8	Port Augusta	Far North	-63	-4.6
9	Goyder	Mid North	-10	-3.8
10	Ceduna	Eyre Peninsula	-7	-1.8
	Total		-185	-6.5

Source: 2006 and 2016 Census, Place of Usual Residence databases – INDP 1 digit level 'Health Care and Social Assistance' and 'Education and Training'.

## 4. Drivers of population change

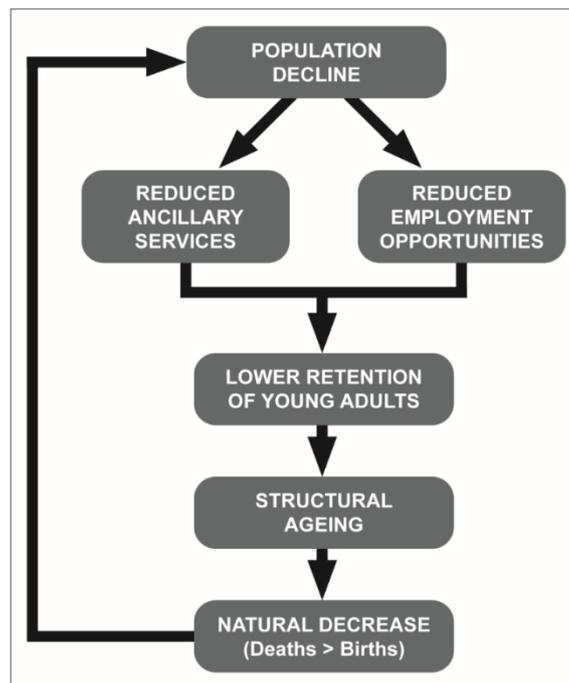
### 4.1. Drivers of population decline and growth in non-metropolitan South Australia.

In 1994, McKenzie described how rural depopulation had been occurring over many decades in Australia (McKenzie 1994). Beer & Keane (2000) described how the Spencer Gulf area, which includes Port Pirie, Port Augusta and Whyalla, saw a population loss of nearly 5% in the decade from 1986. This earlier work reinforced how decline has been a trend in parts of South Australia for a considerable period. It is evident from the analysis that population decline in South Australia is pronounced and widespread in areas of dryland, broadscale farming and in parts of the Riverland not immediately adjacent to the Murray River. Non-metropolitan growth is concentrated around Adelaide, in the southern Eyre Peninsula and in coastal areas. At the level of the entire state, the South Australian government population projections anticipate Adelaide and its outer area will account for 79% of the South Australian population by the year 2041 (SA Government 2019), an increase from 77.8% in the ABS (2021) March ERP release. This is consistent with Figure 1, which highlighted a divergence in population growth rates of LGAs outside Greater Adelaide from 2001 to 2020.

Major drivers of population decline in regional South Australia include structural population ageing, the loss of employment opportunities, and the loss of ancillary services. These drivers are interrelated and changes in one often have implications for the other. The failure to retain young adults in many of the state's regions is a powerful driver of population decline. It reflects the decisions of these young people to seek greater employment and educational opportunities in regional centres or in a major metropolitan area, and these are largely opportunities which their hometowns simply cannot provide (Smailes et al. 2019). The loss of ancillary services in declining regions has been well documented in McKenzie (1994) and it is a process that feeds back to accelerate population decline (Beer & Keane 2000). This vicious cycle of interconnection between population decline, structural ageing, the loss of employment opportunities and the removal of ancillary services is represented below in Figure 5, which has been adapted from Sorensen (1990a in McKenzie 1994).

Reviewing the geographical distribution of South Australian population changes from 2001 to 2020 reveals decline is most pronounced in those localities dependent on traditional regional industries, including the production of wool and grains. Contrary, perhaps to expectations, mining has provided limited employment security. This is most evident in the South Australian wheatbelt – the outer Mid North and the eastern Murraylands and Riverland – and in the upper east Eyre Peninsula. Furthermore, these vulnerable regions demonstrate common drivers of population decline such as structural ageing – where deaths outnumber births – and a correspondence with the loss of employment and services as seen in Tables 2 and 3 for the regions of the Eyre Peninsula, the Far North, and the Murraylands and Riverland.

South Australia is often said to be the 'driest state in the driest continent' and is consequently particularly vulnerable to climate change, severe weather events, and natural disasters such as droughts and bushfires. A 2013 study that developed a vulnerability index looking at Australia's country towns and the potential impacts of climate change noted that South Australia faced unique challenges due to its highly concentrated population, alongside other factors (Beer et al. 2013).



**Figure 5: The vicious cycle of population decline**

*Source: adapted from McKenzie (1994).*

The Riverland towns of Waikerie, Renmark, Barmera, Berri and Loxton, with economies tied to the health of the River Murray, were scored as high risk on the vulnerability index (Beer et al. 2013). Agricultural production is at the centre of many country towns and climate change has been identified as a major threat to this industry with the projected higher temperatures and reduced rainfall having negative impacts. This risk will be particularly acute in South Australia's more arid zones (Beer et al. 2013). Changing climate could prove to be a significant driver of out-migration and the eventual abandonment of some settlements.

Some regions that have experienced a decline in traditional regional industries have reversed a trend of population decline due to their presence within the expanded commuting belt of Adelaide. Adelaide's commuting belt has expanded over the last decades with advances in communications and technology. Consequently, the parts of the Mid North and Murraylands and Riverland closest to Adelaide have grown in population while their northern and eastern neighbours have declined. Alternatively, growth regions have come about due to post-productivist shifts in coastal and riverside regions which have become destinations for retirement, tourism (Argent et al. 2016; Smailes et al. 2019) and unique consumptionist experiences (Morrison et al. 2015). The Regional Australia Institute (2015) has argued that other drivers include the growth of remote mining communities and towns on key transport routes.

Regions in decline are caught in a vicious cycle in which employment and service loss are influenced by structural ageing and population decline, which then further exacerbates the loss of jobs and service provision. This phenomenon can help explain the distributions of population loss in regional South Australia to date and puts question marks around how migration patterns may change as the ongoing economic and health impacts of COVID-19 emerge over the next decade.

#### 4.2. Short and long-term effects of COVID-19 in non-metropolitan South Australia

Due to COVID-19, Australia's international borders have been closed, and state borders have also been subject to period closures. South Australians have consequently been restricted to holiday destinations closer to home. Karoonda, a small town in the Murraylands, has sought to capitalise on the popularity of this increase in domestic tourism. With its silos as a drawcard – newly painted with artwork highlighting the history of the area – the Karoonda East Murray Council developed plans to expand and improve the town's caravan park to accommodate the large influx of visitors. In addition, the council invested in a range of incentives for local businesses to upgrade facilities (ABC News Riverland 2021). The experiences of Karoonda reflect those of other small towns throughout South Australia with hopes expressed by many that events could boost community, industry and the local population. However, there remains a disconnect between the perception that the increased tourism in the short-term will result in any long-term population growth and reality, as this notion is inconsistent with population projections (Centre for Population 2020).

Over the coming decade, Australia's population growth is expected to slow to its lowest level in more than a century as net overseas migration has come to a standstill with the onset of the pandemic (ABS 2021). Furthermore, projections based on the 2021-22 Federal Budget forecast that overseas migration is not expected to return to pre-COVID-19 levels until 2023-2024 (Commonwealth of Australia 2021). While overseas migration in South Australia is mostly concentrated in Adelaide, the concern for the regions lies in that the economic shocks of COVID-19 are likely to affect South Australia's most fragile economies as the state's economy contracts. Communities caught within the vicious cycle of population decline, or at risk due to structural ageing, are more vulnerable to external events such as droughts and, economic and health crises such as the COVID-19 pandemic. They face the potential of further decline and even disappearance as residents migrate to more urbanised centres to secure services in these periods (Beer et al. 2011). Regional agricultural areas, for example, have suffered in the past due to droughts and yield volatility (Productivity Commission 2005) producing work that is, when available, insecure.

More broadly, political support for an 'Australia first' migration policy may result in lower targets for the number of immigrants entering Australia (Betts & Birrell 2020), thereby stripping away one option for growth in areas of decline as South Australia recovers from the economic effects of COVID-19. Wilson et al. (2021) notes that "population forecasting is particularly hazardous at this time" due to the uncertainty arising from the pandemic – and it is clear some population forecasts need to be approached with caution. Nevertheless, there are grounds for concern given South Australia's reliance over the last two decades on overseas migration for population growth, especially given its role in reversing projections of net state loss in the early 2000s (Hugo 2008).

### 5. Conclusions

This paper has shown there has been a steady and ongoing decline in rural and remote South Australia for several decades as industries have contracted, farms aggregated, and as agricultural regions have turned away from their long-standing focus on production, becoming more significant for their consumption offerings. In contrast, regions closest to the Adelaide metropolitan and other large regional centres which offer high employment and amenities have experienced an increase in population. Three drivers of population decline – structural ageing, loss of employment opportunities

and loss of ancillary services – were examined in this analysis. This paper finds that regions in decline have a positive correlation with structural ageing and the loss of employment and services. Furthermore, these drivers have feedback on each other such that initial population decline reinforces the fragility of core industries, which in turn contributes to the loss of support services. This paper lastly sought to review the potential short- and long-term impacts of the COVID-19 pandemic as it applies to South Australia. Short-term impacts include low levels of migration from capital to rest of state areas, and a reduction in overseas migration. While a short-term reduction of overseas migration is negligible, two decades worth of marked reliance on net overseas migration for the maintenance of South Australia's population growth, in addition to the historically high levels of interstate outmigration, means that the state is likely positioned for half a decade of slow growth until overseas migration resumes to pre-COVID-19 levels. The resultant contraction of the state's economy as it recovers from the pandemic may result in a shock on South Australia's most vulnerable economies and there is a substantial risk that some of these places will not recover if their core industries are adversely affected.

The loss of employment in core industries is a key trigger for many regions to tip over from being at risk of population decline, to experiencing population decline and this is a central finding from this research. As we look to the future, we can only conclude that there is a need to find better ways to support these industries, or introduce new forms of economic activity into these places, in order to ensure the enduring legacy of COVID-19 is not the demise of South Australia's regions.

### Key messages

- Population decline has been occurring in remote South Australia for a long time and this trend looks set to continue.
- Structural ageing and the loss of employment are significant causes of population decline in regional South Australia.
- Loss of overseas migration due to COVID-19 may result in an economic shock to some South Australian regional economies which could lead to population decline.
- Strategies that support regional industries or introduce new forms of economic activity in these communities are needed to moderate further population decline in South Australia.

### Acknowledgments

The authors thank Justin McCulloch, The Australian Alliance for Social Enterprise at the University of South Australia, for producing the maps.

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