Submission No 20

PERFORMANCE OF THE REGIONAL INVESTMENT ACTIVATION FUND AND THE REGIONAL JOB CREATION FUND

Organisation: NSW Farmers' Association

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Mr Roy Butler, MP
Chair
Legislative Assembly Committee on Investment, Industry and Regional Development
Parliament House
Macquarie Street
SYDNEY NSW 2001
By email: investmentindustry@parliament.nsw.gov.au.

RE: Performance of the Regional Investment Activation Fund and the Regional Job Creation Fund

NSW Farmers thanks the Parliamentary Committee for initiating this inquiry and providing the opportunity to provide comment. NSW Farmers is Australia's largest state farming organisation, representing the interests of its farmer members in the state. We are Australia's only state-based farming organisation that represents farmers across all agricultural commodities.

The need for stronger more prosperous regions is underpinned by a strong and productive agriculture sector. In 2021 NSW Farmers commissioned an independent research report into the role of agriculture in regional economies. The *Stronger Ag Sector, Stronger Regions* report which accompanies this response as Attachment 1 highlights the need for a virtuous economic cycle for regional NSW through mutually beneficial opportunities for agriculture and regions, highlighting five investment, incentivisation, and intervention priorities, being:

- Regional jobs, education and training
- Uptake of digital technology
- Physical access to markets
- Energy efficiency
- Better liveability

While all elements of this cycle are connected, there are optimal points in the cycle at which government and industry interventions can enable or accelerate beneficial flows.

To start a virtuous economic cycle the government will need well targeted stimulatory spending which maintains stability in the agriculture sector and increases job opportunities. This approach will shore up regional and national economies. Targeted initiatives for the Government to invest in are areas such as service and transport Infrastructure, connectivity and workforce.

Improved targeted infrastructure is a key enabler for agriculture and regional community amenities. Infrastructure is important for regional areas in achieving competitiveness in business. It can be a major factor in incentivising jobseekers to take up employment with agribusiness employers and

retaining staff in regional areas. The quality-of-service infrastructure in rural and regional NSW does not currently meet the standard Australians expect. This includes not only the provision of adequate transport, energy and communications infrastructure, but that most basic of needs, water.

It would be wrong to suggest that simply putting in an agriculture project will create the benefit to the regional economy. Poorly designed government investment will not create the desired effects for the local economy and just drain local resources. For long lasting success, stimulatory spend needs to be targeted to enhance growth in agriculture, an engine industry for regional NSW.

Retaining workforce in the regions will help improve the liveability issue in regional NSW, which in-turn incentivises more people to move to regional NSW. Government investment in improved services such as housing, health care, water services and others, will incentivise more people to stay and potentially move, which will create a virtuous cycle leading to better and more cost-effective serviceability. A huge barrier to the virtuous cycle is the lack of proper healthcare in regional NSW. More resources are needed improve health services and retain nurses and other health professionals in the rural, regional, and remote NSW.

Improving connectivity is key, as access to digital technology is limited because of the higher cost of developing telecommunications infrastructure in the regions and a lack of competition between providers. Connection to fast and reliable wired broadband is often limited to large towns, leaving most of regional NSW reliant on wireless technologies such as the 4G network and satellite broadband. This in turn means many primary producers are operating businesses under the constraints of low data speeds, small data allowances, poor coverage, unreliable connections and at higher costs. Regional connectivity programs are important as they seek to redress this divide via large-scale infrastructure investment to reduce mobile 'black spots', which enable agribusinesses to use technologies and facilitate remote working opportunities.

We support the NSW Government led initiative for the Special Activation Precinct (SAP) as a positive example of supporting regional and agricultural investment. The NSW Government launched the SAPs in strategic locations in regional NSW to assist in encouraging investment in areas along the food and fibre supply chain including key transport corridors and intersections, freight, logistics hubs and high value agriculture. The SAPs have streamlined planning and approval process as well as government-led development and studies which utilises infrastructure to support local and business needs. The SAPs have set up in Parkes, Wagga Wagga, Moree and Snowy Mountains.

Targeted transport infrastructure is needed to link agriculture land to markets. There needs to be an upgrade to the western transport corridor from prime agricultural land to deliver goods to the Sydney basin. The upgrades should be achieved by duplicating the Great Western Highway between Lithgow and Katoomba, preferably through a tunnel to bypass town bottle necks, as well-as the removal of traffic lights and school zones along the existing duplicated section of the highway, along with the construction of traffic and pedestrian overpasses/underpasses. There also needs to be construction of more overtaking lanes on Bells Line of Road and the identification of track failure points along the blue mountains line. Other major arterial roads such as the Newell highway are also in need for upgrades to secure the North-South link. Improved transport infrastructure will increase the productivity and efficiency of agriculture businesses.

Fixing local roads is needed for improved liveability and productivity in regional NSW. Local roads are critical to the transport of agricultural product and carry significant heavy vehicle movements throughout the year that place additional wear and tear on these roads, it is important that local roads across regional, rural and remote NSW are able to be maintained to a standard that will last. Currently, many local roads are in a state of disrepair, made worse by recent flooding, and more

funding is required to improve the quality of local roads. Local Government in general are lacking the resources to provide proper services to the community and need are more secure funding stream from State and Federal Governments.

Targeted government investment that supports agricultural industry development will have a multiplier effect in the regions and create a virtuous economic cycle and a self-sustaining region. If further information is required, please contact [redacted], A/Head of Policy and Advocacy on [redacted] or by email at [redacted].

Your sincerely

Xavier Martin
President

Research Report

Australian Farm Institute

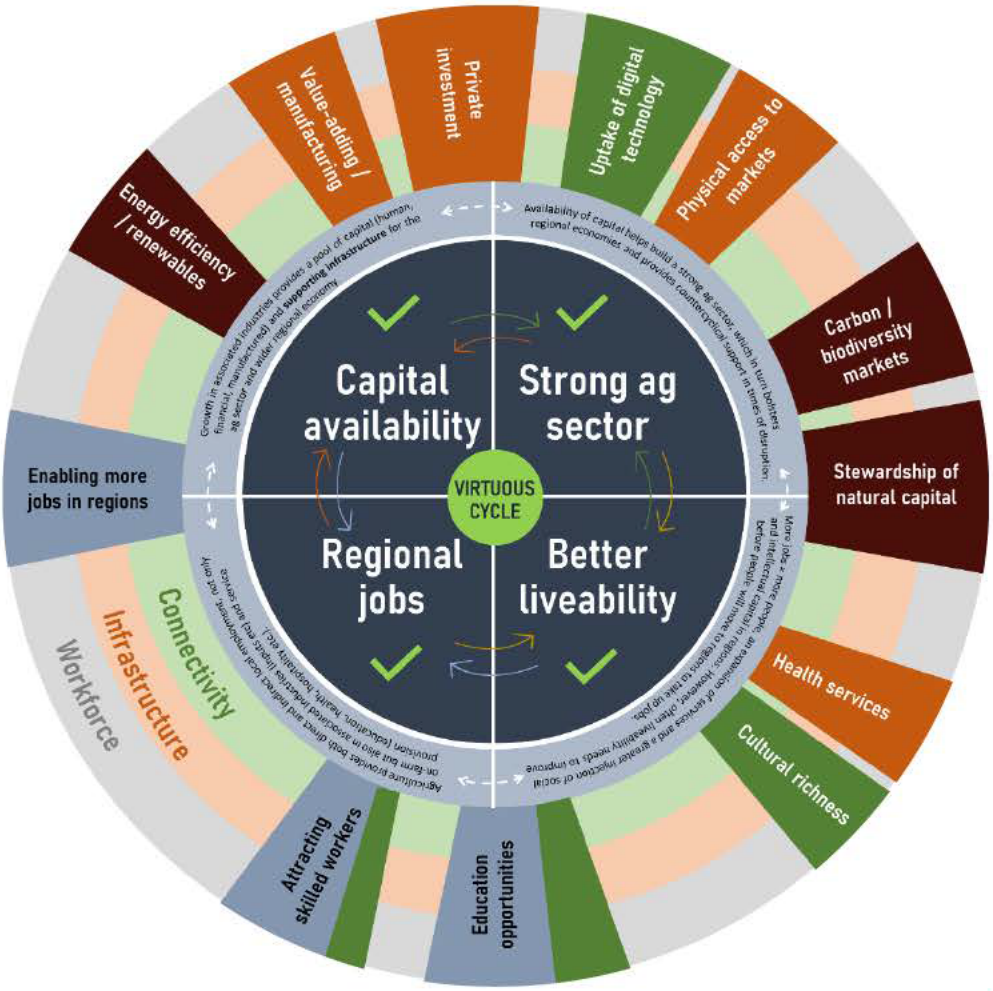
August 2021

Stronger ag sector, stronger regions

Investment, incentivisation and intervention priorities to promote mutually beneficial outcomes for farmers, regional communities and agrifood systems

Stronger ag sector. stronger regions

Investment, incentivisation and intervention priorities to promote mutually beneficial outcomes for farmers, regional communities and agrifood systems



Australian Farm Institute

New thinking about agriculture

Stronger ag sector, stronger regions

AUTHORS: [redacted], *Australian Farm Institute*

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Executive summary

This paper considers how the agriculture sector can leverage stimulatory regional investment to ensure enduring economic stability and social benefits by establishing a virtuous cycle of beneficial impacts.

A strong agricultural sector, availability of regional jobs and financial capital, and improved regional liveability are not only linked but interdependent. If regionally focused stimulatory spending can be directed to maintain stability in the agricultural sector and increase regional job opportunities, this will in turn shore up the security of both regional and national economies, creating a virtuous economic cycle.

While all elements of this cycle (and many other contributing factors not included here) are intertwined, optimal points in the cycle at which government (and industry) interventions can enable or accelerate beneficial flows have been identified for this paper under key themes and priorities.

The three connected overarching themes identified herein are:

1. **Connectivity:**
   While regional digital connectivity remains sub-standard, the farming sector and its connected socio-economic entities cannot take full advantage of emerging opportunities in digital agriculture, productivity improvements and energy efficiency. Education and health services in regions will also continue to be constrained, undermining the potential of the agrifood sector to attract and retain skilled workers.

2. **Infrastructure:**
   The viability of the agrifood sector is reliant upon access to efficient, robust infrastructure networks for physical access to markets, and regional supply chains are critical not only for industry but also to supply communities with basic needs; yet significant deficiencies in regional infrastructure quality and access are compromising productivity and liveability.

3. **Workforce:**
   Attracting and retaining a skilled workforce cannot be divorced from the issues of regional amenity, connectivity (physical and digital) and the basic needs of housing and health services within proximity of the place of employment.

Within the context of these themes, points of advantageous intervention have been identified to help decision-makers target stimulatory spending in a manner which ensures Australian agriculture can capture opportunities from regional population growth to underpin long-lasting economic stability and social benefits.

The five investment, incentivisation and intervention priorities are:

1. **Regional jobs, education & training:**
   The skills needs of the agrifood sector are in a state of transition. Identification of appropriate training and education for emerging skillsets must come from the agricultural industry and the regional communities who need those skills. Attracting workers and improving employment opportunities are issues strongly aligned with uptake of digital technology, education opportunities, better liveability and physical access to markets. Investment in initiatives which grow the agrifood sector will in turn lead to more jobs which interact with agriculture.

2. **Uptake of digital technology:**
   Connectivity remains a significant barrier for regional Australia in leveraging the full potential of digital technology solutions. Acceleration of both digital infrastructure investment and tech adoption incentivisation should be focus areas of equal importance for decisions-makers.

3. **Physical access to markets:**
   Inefficiencies in supply chain infrastructure add costs and time imposts for farmers and value chain actors which can quickly erode productivity gains and profitability margins. In addition to prioritising

essential infrastructure investment, access to physical markets can be improved by deliberate co-location of complementary businesses and via strategic supply chain scenario planning.

4. **Energy efficiency:**
   A low-carbon recovery could stimulate more economic growth and create more jobs than a high-carbon recovery. Incentivising regionally-*targeted* (not only *located*) renewable projects will have the multiple outcomes of contributing towards achieving sectoral and regional net carbon emissions goals while also decreasing energy costs and attracting workers to regions.

5. **Better liveability:**
   Discussion on regionalisation policy cannot avoid the 'inconvenient truths' regarding the gaps in services between urban and regional communities. This heterogeneity and subjectivity of liveability assessment underscores the need for 'place-based' approaches to regional investment.

Interventions under the three themes, specifically targeted at the five priority points, will contribute to a virtuous cycle which will underpin broad-reaching, beneficial socioeconomic outcomes. These themes are not new, and many of these ideas have been suggested by others, yet action which could create a stronger ag sector and stronger regions has been lacking. Short-term thinking (from either government or industry) is anathema to the concept of the virtuous cycle. Decision-makers must envision goals for agriculture and regional communities at least a decade ahead, preferably many decades, and consider the alternative scenarios resulting from action or inaction.

Strong regional economies help farmers do better, and farmers are providing an essential community service. The pandemic has highlighted the advantages of secure food sovereignty. The agricultural industry ensured ample food stocks were available to replenish supermarket shelves and in doing so, created a buffer which lessened the socioeconomic disruption resulting from business shutdowns. Australia's diverse agricultural sector feeds not only our domestic population, but also underpins food security for many of our regional trading partners. With Australian farmers operating in one of the least subsidised environments in the world, it would be remiss of decision-makers not to seek out opportunities which strengthen the sectors' stability and longevity.

Farmers feed us all, and we as a society have a responsibility to ensure the sector remains productive and continues to provide food security. Investment, incentivisation and intervention decisions which prioritise building regional economic opportunity through increased agricultural industry will have the symbiotic outcomes of enhancing both the sustainable growth of the farm sector and the long-term viability of regional communities.

Without interfering in markets to a degree that could create perverse outcomes, this investment, incentivisation and intervention could - and should - be done in a manner that ensures vibrant regional communities can thrive, improving quality of life for regional Australians and taking pressure off overstretched urban systems.

1. Leveraging disruption to advantage

For Australian agriculture, the *annus horribilis* of 2020's global pandemic was compounded by drought, fires and floods. However, in the face of extreme challenges, opportunities for positive transformation can arise.

Increased opportunities for remote working, housing affordability and lifestyle changes are enticing people from capital cities to regional areas – in fact pre-COVID, regional Australia already had a net inflow of 65,204 people between 2011-16 (Houghton et al., 2020). Policies to capitalise on this trend are finding a warm reception with decision-makers and politicians in 2021.

Agriculture is often integral to regional economies, and can provide countercyclical support in times of external shock. As such, support for a regionally-led economic recovery proffers a rare chance to establish both a positive restructuring in the agri-food system and improved liveability in regional communities.

But regionalisation – i.e. the improvement of social and economic networks to ensure a more even geographic balance of population distribution – is not a new policy area, and it is not as simple as government increasing spending on regional infrastructure. The ag sector is also far from alone in seeking to corral stimulatory spending to its advantage. Policy platforms touting migration, energy, mining, tourism, education and small business as the 'key plank' to COVID-19 economic recovery have been suggested.

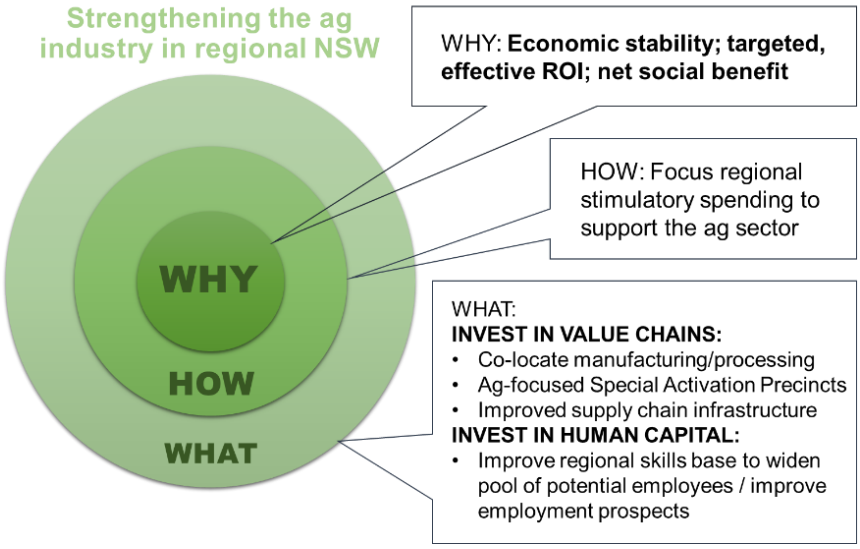

Figure 1: What's the purpose?

A strategy which focuses on building regional economic opportunity through increased agricultural industry has the symbiotic outcomes of **enhancing the sustainable growth of the farm sector** and **strengthening the long-term viability of regional communities** (Figure 1).

However, the opportunities in linking stimulatory regional spending to the agriculture sector are countered by some significant challenges (Figure 2). For example, cases of land use conflict may increase from a rise in growing regional populations and rezoning land to facilitate regional expansions, potentially increasing the loss and fragmentation of agricultural land. Conflicts of this nature not only cause economic costs to farmers but significant impacts to mental health and social impacts can be experienced (McRobert et al., 2020). Although arguably the positives of regionalisation for the agricultural sector outweigh the potential negatives of increased regional economic development, it is important that a regionalisation strategy aims to balance these issues.

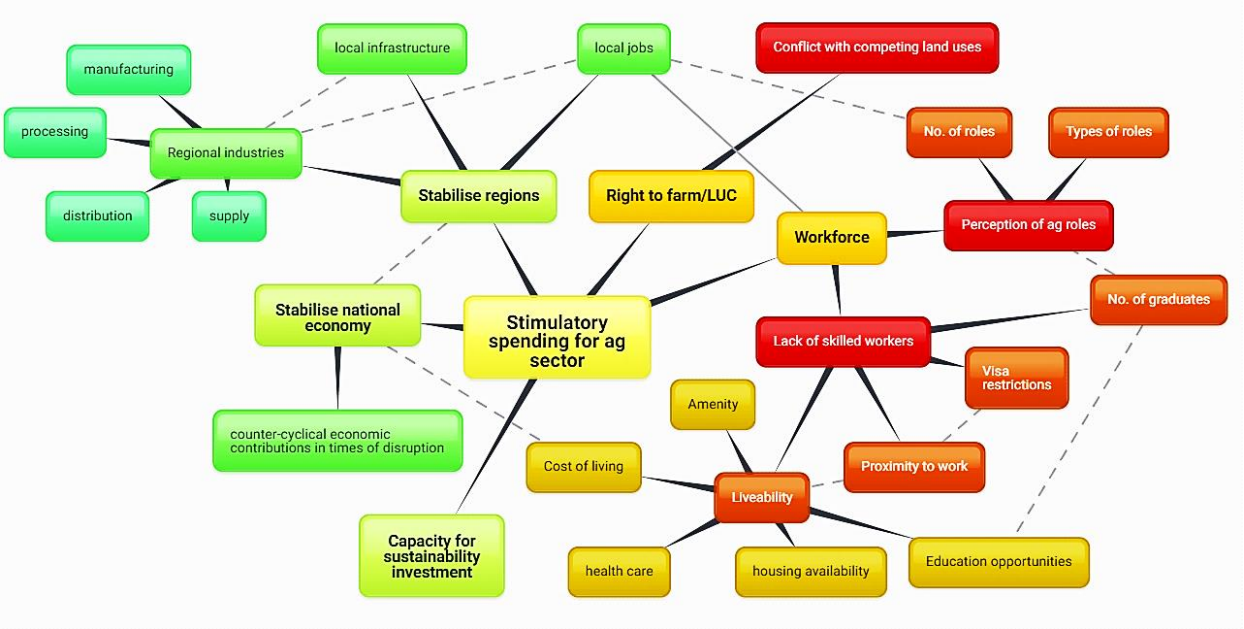

Figure 2: Opportunities (green) and challenges (red) in linking stimulatory regional spending to the agriculture sector

Economic recovery strategies which include targets relevant to the interconnected goals of simultaneously strengthening agriculture and regional economies have been proposed by not only NSW Farmers and the National Farmers' Federation, but also State and Federal Governments. Some common themes in these proposals include:

- supply chains and infrastructure
- water and environmental reform
- cutting red tape for farm businesses
- job creation
- upskilling, training and education

Policy papers produced by Farmers for Climate Action, ClimateWorks, and the Regional Australia Institute posit similar themes, with the additional inclusion of renewable energy industry goals (Bourne, 2019; Farmers for Climate Action, 2020; Lambert, 2020).

Regionalisation is one of the common threads running through the plethora of renewal/stimulation package proposals. For example, the NSW Government's COVID-19 recovery plan aims to stimulate economic activity by cutting decision times on development applications for large projects in regional areas and also includes targeted investment for regional infrastructure, such as highway upgrades and the first new dam for the State in 30-plus years. The NSW Government plan also commits $1 billion to five regional Special Activation Precincts (SAPs)[1] (NSW Government, 2021c), and offers up to $10 million in co-funding (via the Regional Job Creation Fund) to activate regional projects in 'engine', 'enabling' or 'emerging engine' industries. Relocation grants are also available to help attract skilled employees to regional NSW businesses. The 'engine industries' – i.e. those which have a regional or natural competitive advantage, tend to trade their goods outside the local area and provide significant multipliers to the local economy – include agriculture, forestry and manufacturing.

When regionally focused stimulatory spending can be directed to maintain stability in the agricultural sector and increase regional job opportunities, this will in turn shore up the security of both regional and national economies, creating a virtuous economic cycle.

[1] SAPS are planned for Moree, Narrabri, Parkes, Wagga Wagga, Williamtown and the Snowy Mountains – see https://www.nsw.gov.au/snowy-hydro-legacy-fund/special-activation-precincts

2. Mutually beneficial opportunities for ag and regions

2.1 A virtuous cycle

It would be disingenuous to suggest that simply injecting government funds into nominated regional agriculture projects would automatically benefit the sector and local economies, or that discretionary stimulation of regional economies will axiomatically have a positive impact on the agriculture sector. Poorly directed (often politically motivated) government investment can create 'white elephants' which not only fail to benefit communities but can also become a drain on local resources (see *Section 2.2.2 Infrastructure*).

To ensure regionally focused stimulatory spending achieves long-lasting socio-economic benefits, it is important to consider locally appropriate strategies (such as the NSW SAPs) to enhance growth in jobs and support for the agricultural sector – an 'engine industry' which can also make a positive contribution to social and natural capital.

The regions have been described as the backbone of our exports sector, with regional Australia's major industries (agriculture, forestry, fishing and mining) accounting for almost 60% of Australia's merchandise exports in 2016 (Select Committee on Regional Development and Decentralisation, 2018). More than 1.5 million Australians are employed in industries servicing and providing support to the agricultural sector across the country[2] (W. Wu et al., 2019). In NSW, the combined agriculture, forestry and fishing sectors employed 81,900 people (approximately 2% of the state's workforce) in 2020 across more than 24,000 farms, and produced $11.7 billion in GVP (ABARES, 2021b).

Figure 3: Stronger ag, stronger regions - a virtuous cycle

[2] For example: manufacturers, drivers, retailers, teachers, research scientists, veterinarians, technology developers, biosecurity officers and engineers.

A strong agricultural sector, availability of regional jobs and financial capital, and improved regional liveability are not only linked but interdependent. Identification of opportunities to establish or expand regionally-based agricultural industry, such as value-adding or manufacturing, can enable a more targeted investment of stimulatory spending and thus feed into a virtuous cycle (Figure 3).

The skilled worker gap for agriculture exemplifies the complexity of the issues to be considered when seeking to target investment in ways which benefit both regional growth and agricultural sustainability.

While regional Australia has attracted more people than it lost to capital cities in recent years (Houghton et al., 2020), the agriculture sector has struggled to find the skilled workers it requires across many subsectors (NFF, 2018a). Along with a clear strategy for improved training opportunities – including increased awareness of agriculture as a career choice and better linkages between potential employers and potential employees (NSW Farmers, 2020; J. Pratley & Crawley, 2018) – liveability issues in regional areas must also be addressed to enable skilled regional migration (Bourne, 2019). The right injection of private capital combined with government-led incentives will strengthen the agriculture sector, in turn bolstering regional employment opportunities.

In a virtuous cycle, this population increase feeds into improved liveability as services are expanded to meet demand, inevitably providing a greater pool of human and financial capital on which the agrifood sector can draw.

These interactions of course do not flow one way only. Targeted, well-planned investment, incentivisation or intervention *at the right point* can improve the flow-on effects. Conversely, a lack of strategic investment (or poorly designed implementation of that investment) can set up a vicious cycle which undermines regional economies (Figure 4).

While all elements of the cycle depicted (and many other contributing factors not included here) are intertwined, there are some optimal points in the cycle at which government interventions can enable or accelerate beneficial flows. These include both *traditional areas* of government responsibility, such as education and training, community health and cultural services, and *emergent opportunities* like digital connectivity and energy efficiency.

This paper addresses in brief some of the key opportunities to leverage stimulatory regional investment to strengthen the agriculture sector, enhancing economic stability as well as the social and natural capital on which agriculture itself depends.

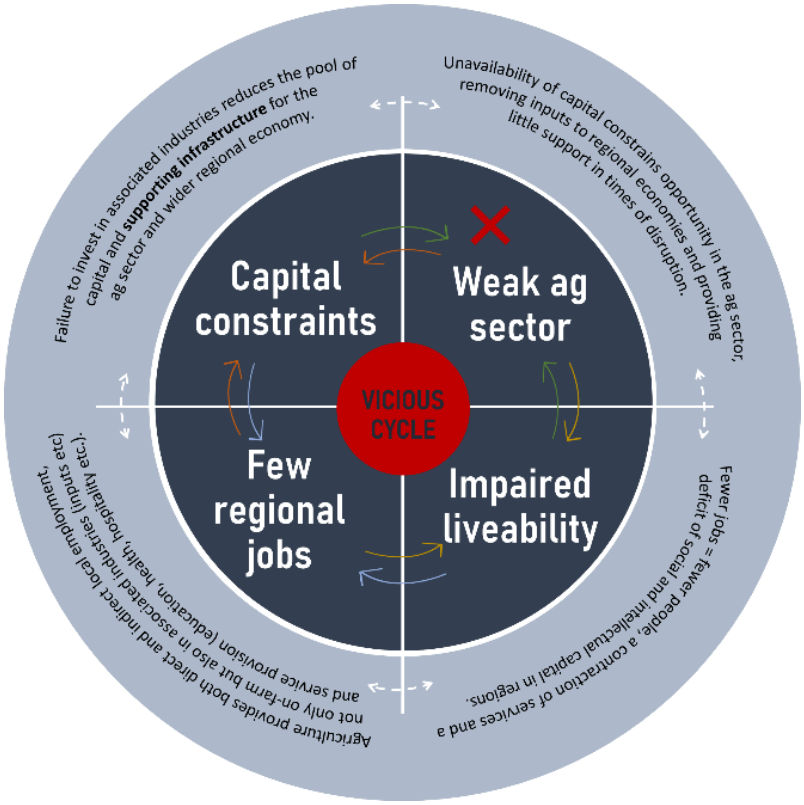

Figure 4: Weaker ag, weaker regions - a vicious cycle

2.2 Overarching themes

Of the many themes material to regionalisation and agricultural growth, some are ubiquitous to the issues of employment, liveability and capital investment; i.e. **connectivity, infrastructure** and **workforce** (Figure 5). Investment into each of these three themes positively impacts all four categories of the virtuous cycle individually as well as creating beneficial flow-on effects.

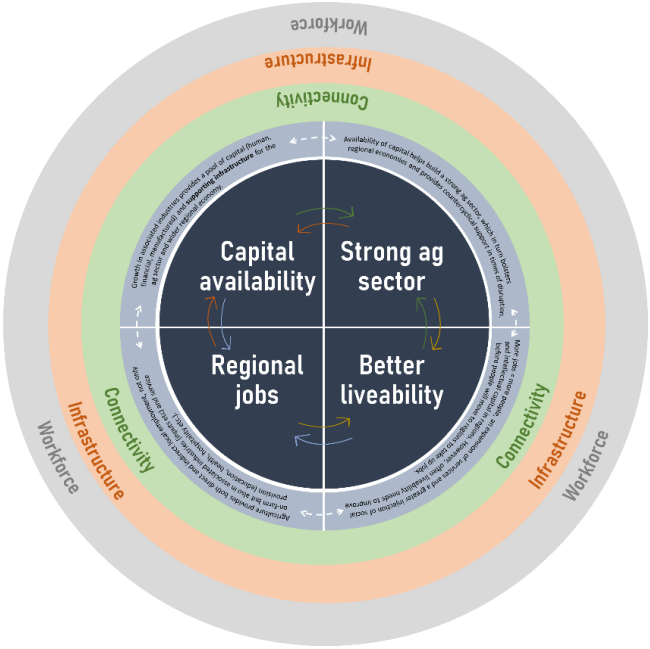

Figure 5: Overarching themes related to strengthening the agri sector and regional economies: connectivity, infrastructure, workforce

While this paper addresses points where government or industry policy can be focused to achieve the virtuous cycle discussed in Section 2.1, recent research has demonstrated that interventions driven by communities show great potential for those communities to positively influence outcomes for their residents (Houghton, 2019). Thus, decision-makers should always consider targeting investment resources to locally-led and/or regionally-based opportunities and initiatives.

2.2.1 Connectivity

The Australian agriculture sector naturally operates primarily in regional Australia, where access to digital technology is limited because of the higher cost of developing telecommunications infrastructure in the regions and a lack of competition between providers. Connection to fast and reliable wired broadband is often limited to large towns, leaving most of regional Australia reliant on wireless technologies such as the 4G network and satellite broadband. This in turn means many primary producers are operating businesses under the constraints of low data speeds, small data allowances, poor coverage and unreliable connections (NFF, 2016; Marshall et al., 2019).

The AFI has predicted that full adoption of digital agriculture could increase Australian agriculture's GVP by about 25%, or $20.3 billion (Perrett et al., 2017); yet the adoption of digital technology is far from universal across the sector (Agriculture Victoria, 2018; Keogh, 2017a; NFF, 2018b). In fact, agriculture received the lowest scores for digital capability out of any Australian economic sector analysed in McKinsey's *Digitisation Index* and Telstra's *Australian Digital Inclusion Index* (McKinsey, 2017; Thomas et al., 2016). The *Digital Inclusion Index* also identified that rural and regional communities face significant challenges from lack of access, affordability and digital ability.

The NSW Government's Regional Digital Connectivity program seeks to redress this divide via large-scale infrastructure investment to reduce mobile 'black spots', enable agribusinesses to use technologies (for increased productivity and better resource management) and facilitate remote working opportunities (NSW

Government, 2021b). This incorporates the *Farms of the Future* initiative under the *Future Ready Regions Strategy* (Department of Regional NSW, 2021), which plans to construct and operate a Long-Range Wide Area Network (LoRaWAN) in five target regions and offer grants for farmers to purchase ag tech devices and applications.

While these initiatives are welcome, it is hard to understate the urgency and scale needed to tackle this theme. Connectivity not only underpins agribusiness efficiency, it is also a key factor in improving education opportunities, health services and non-agricultural business/employment in the regions. Indeed, future workforce opportunities in the ag sector will be shaped by access to (and capacity in) digital technology (*Section 3.1 Regional jobs, education & training*). Improvements to the quality of regional connectivity are imperative if the ag sector is to retain its competitive edge and to prevent any widening of the opportunity/access gaps between urban and rural Australia (Keogh, 2017b).

As long as regional connectivity is sub-standard, the ag sector and its connected socio-economic entities risk being locked into the vicious cycle.

2.2.2 Infrastructure

Infrastructure is a key enabler for agricultural industries and rural/regional community amenity. For businesses in regional and rural areas, the availability and quality of infrastructure is often a critical element in achieving competitiveness. It can be a major factor in incentivising jobseekers to take up employment with agribusiness employers and retaining staff in regional areas (Burrow, 2017; Keogh, 2017b).

The development of rural and regional infrastructure plays an essential role in not only improving livelihoods in those areas but also in boosting sustainable agricultural production (Q. Wu et al., 2019); yet the quality of infrastructure services for people living in rural communities does not currently meet the standards Australians expect (Infrastructure Australia, 2019). This includes not only the provision of adequate transport, energy and communications infrastructure, but that most basic of needs: water. The 2019 Australian Infrastructure Audit noted that emergent issues around water supply in regional areas came as "a shock to many people", e.g. threats to drinking water supply for entire towns, mass fish deaths and sharply rising costs (ibid). Yet for many regional Australians, these near-catastrophic events are part of everyday life.

While the availability and quality of rural infrastructure in itself is clearly not the only factor influencing regional and agricultural economies, inadequacy of infrastructure has been pinpointed as a significant constraint to growth and productivity. Conversely, investment into rural infrastructure - particularly for energy distribution (e.g. electricity) and roads - raises overall agricultural productivity, which in turn induces growth in rural areas, resulting in higher agricultural wages and improved opportunities for non-farm labour (Llanto, 2012). Although the diversity of regional supply chains presents unique challenges in providing sufficient infrastructure for seasonal agricultural flows, freight and logistics investments can act as catalysts for regional development (Infrastructure Australia, 2019).

In the quest for recovery from the COVID-19 recession the attractiveness of large-scale infrastructure spending to stimulate regional economies (and construct legacy projects) has already captured the attention of the State and Federal governments. Infrastructure improvement is undoubtedly a priority for both ag and the regions, yet caution in decision-making is prudent; cost overruns for large-scale projects are common and the risk of building white elephants is exacerbated as the scale of infrastructure development increases (Terrill et al., 2020). Western Australia's Royalties for Regions (RfR) program is a notable example of good intentions paving the way to less than ideal outcomes. With an entire Department of Regional Development and an unexpectedly generous bucket of money thanks to a boom in commodity prices, the program which started in 2008 should have been well positioned to make a measurable and lasting difference to regional infrastructure and liveability. Instead, the RfR created a budget 'black hole' and wasted the state's resources and opportunities, thanks to the lack of a coordinated strategic plan, poor governance and ill-informed decision making (Langoulant, 2018).

As infrastructure is often inherently unsuited to private-sector investment, government plays a critical role in its provision. The susceptibility of infrastructure investment to political influence presents a significant challenge for regional Australia and the ag sector. Regardless of lip service to the 'battlers' of non-urban electorates, political pragmatism will more often than not see metropolitan projects (serving literally millions of voting commuters) prioritised over flood-prone bridges on regional highways. The challenge lies in ensuring that the interlinked regional infrastructure needs for regional Australia and the agriculture sector are clearly articulated (*Section 3. Investment, incentivisation and intervention priorities*) and remain prominent in the minds of decision-makers tasked with allocating finite resources (Keogh, 2017b).

The NSW Special Activation Precincts (SAPs) aim to "create jobs, attract businesses and investors, support local industries and fuel economic development" by fast-tracking planning processes and tailoring investment in infrastructure (including for example, roads, utilities, waste management and digital connectivity projects) (NSW Government, 2021c). While the SAPs initiative shows promise, it is imperative that government investment in infrastructure considers the holistic benefits to the State and the ag sector. Decentralisation policy often sidelines primary production, which can reduce the capacity of the sector to effectively contribute to local economies (NSW Farmers, 2020). In addition, creation of such precincts must account for the potential for fragmentation or loss of agricultural land and any increased risk of land use conflict (McRobert et al., 2020).

Australia's national productivity and global competitiveness – and inherently that of the often regionally based agriculture industry – are dependent on efficient infrastructure networks; yet the Australian Infrastructure Audit cautions we are rapidly losing ground to international competitors (Infrastructure Australia, 2019). This situation is not tenable for an export-focused industry, nor for the regional communities it supports.

2.2.3 Workforce

This theme ties closely in with both **connectivity**, as the uptake of digital technology in the agriculture sector will have a transformative effect on the composition of the workforce, and **infrastructure**, which can be a decisive factor in attracting and retaining staff in regional areas.

The value of Australian agriculture has doubled over the last two decades (ABARES, 2021a). Productivity has also been growing during this period (albeit slowly) with most of the growth in total factor productivity (TFP) being delivered through more efficient use of inputs. These inputs include not only resources such as land, chemicals and machinery, but also labour. Ultimately, industry efficiency translates to bigger farms with fewer people on them, and fewer opportunities for traditional on-farm employment opportunities. Faethm[3] modelling indicates that digital technology will affect 41% of jobs in the agriculture sector by 2028 (KPMG & Skills Impact, 2019); that is, many of the unskilled jobs on which the agriculture sector currently relies will be partially or fully automated or augmented within a decade.

While a proportion of the sector's traditional workforce will be displaced by technology, the transition of the agriculture sector to digital business processes (*Section 3.2 Uptake of digital technology*) will also create new job opportunities for appropriately skilled employees both on and off-farm, expanding regional job opportunities (*Section 3.1 Regional jobs, education & training*).

At the same time as the agri job market is undergoing this transitional period, separate issues are contributing to the regional labour shortages which have been identified as one of Australia's most pressing economic problems. Businesses in the regions (and farming or agribusinesses more generally) are – as a generalisation – struggling to secure both skilled and unskilled labour (Burrow, 2017). Yet attracting jobseekers is not a matter of merely the advertising available jobs and waiting for applicants; labour attraction in this context faces the dual challenges of attracting people to regions from metropolitan areas, and also to a role or career in agriculture.

[3] A platform created to predict the effect of emerging technology on human capital management – see https://faethm.ai/about

To this end, AgMove[4] – a Federal Government initiative that helps with relocation costs for people to take up short term agricultural work – and the extension of an agriculture visa to the UK and ten ASEAN countries[5] will be of some immediate assistance in addressing workforce issues. However, **enhancing the sustainable growth of the farm sector** and **strengthening the long-term viability of regional communities** will require long-term commitments (*Section 3.1 Regional jobs, education & training*).

The uncomfortable fact also remains that **attracting and retaining an appropriately skilled workforce cannot be divorced from the issues of regional amenity, connectivity (physical and digital) and the basic needs of housing and health services within proximity of the place of employment.** For example, if attention is not paid to redressing the disparity between regional and metropolitan access to health services, or to provision of affordable, available regional housing, investment into initiatives such as those recommended in the *National Agricultural Workforce Strategy* is at risk of going to waste or falling short.

Perceptions of poor infrastructure, services and amenities in rural towns can deter people from seeking work outside capital cities (Houghton, 2019). While responses to these issues often require significant government investment, regional communities can positively influence labour markets and improve learning systems via local initiatives – albeit at a smaller scale. These initiatives can also bolster liveability; however, the scale of this issue should not be glossed over.

[4] https://jobsearch.gov.au/harvest/workers/relocation-assistance
[5] https://minister.awe.gov.au/littleproud/media-releases/seasonal-agriculture-worker-visa

3. Investment, incentivisation and intervention priorities

Within the context of these overarching themes, where are the best opportunities (i.e. the low-hanging fruit) for government to invest stimulatory spending in a manner which ensures Australian agriculture can capture opportunities from regional population growth to underpin long-lasting economic stability and social benefits?

While almost any of the factors discussed herein are appropriate investment or incentivisation opportunities to strengthen the ag sector and benefit regional Australia, the eight points highlighted with yellow arrows in Figure 6 represent the most advantageous points for policy intervention. These have been grouped under the following five recommended **interdependent priorities**:

1. **Regional jobs, education & training**
2. **Uptake of digital technology**
3. **Physical access to markets**
4. **Energy efficiency**
5. **Better liveability**

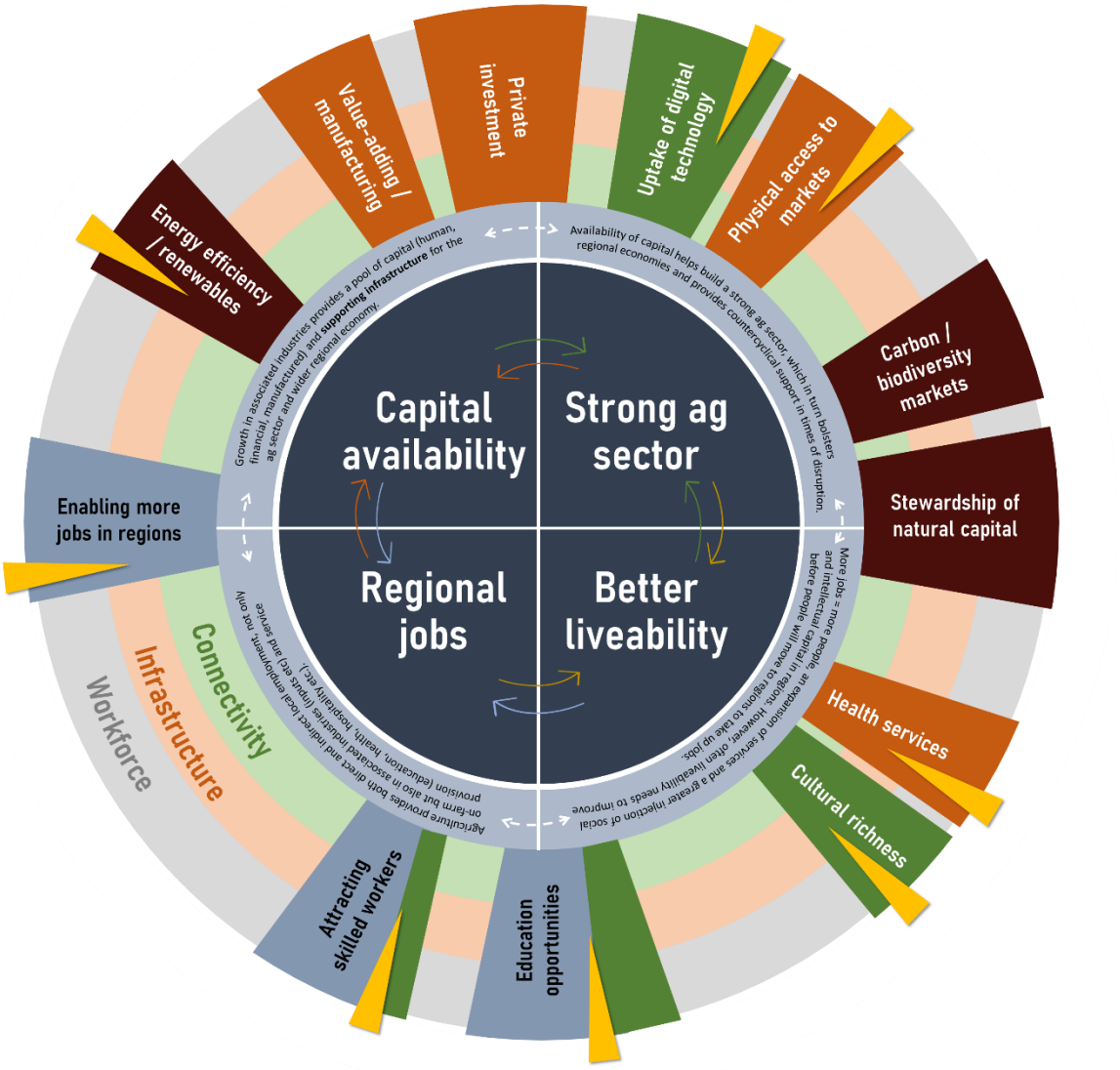

Figure 6: The symbiosis of ag & regional economies demonstrating opportunities for beneficial intervention (yellow arrows)

3.1 Regional jobs, education & training

3.1.1 Education opportunities

National large-scale tests consistently reveal sizeable average score differences between metropolitan and regional students, and 15-year-olds from small regional centres are much more likely to report exposure to bullying than students from cities with populations of more than 100,000 (AEU, 2017). Young adults in regional Australia are also twice as likely to leave school before completing secondary education compared to those in metropolitan areas (Houghton, 2019). With the ag sector crying out for skilled workers, clearly there is a strong need to focus stimulatory spending towards improving school retention rates, experiences and outcomes for regional Australia.

An increase in secondary education graduates is in turn likely to bolster the number of regional students undertaking tertiary studies. As graduates who study with an institution located in a regional area are more likely to gain employment in a rural area than those who study in capital cities (J. Pratley & Crawley, 2018), incentivisation of regional tertiary study options and adequate funding for regional institutions are also vital. Tertiary education of course includes vocational educational and training (VET), the public arm of which has suffered significant setbacks following the introduction of contestable VET funding being made available to private providers. Under the Smart and Skilled reform policy, contestable funding in NSW saw the number of regional and remote TAFE enrolments drop more than 30% in four years, from 236,000 in 2012 to 161,000 in 2016 (AEU, 2017; TAFE, 2016). The *Independent Review into Regional, Rural and Remote Education* concluded that TAFE must "be put back into the regions, closer to people, places and the heartland of much of Australia's productivity" (Halsey, 2018).

The need for increased quantity and quality of education in regional areas is not a new concern, and has been reflected in recent stimulatory announcements. For example, the Federal Government's Job Ready Graduates package (part of the COVID recovery stimulus) discounts university course degrees for areas of expected future job demand, which includes agriculture. Regional students can also access scholarships which provide a one-off payment of $5,000 to help cover relocation costs. The Department of Education, Skills and Employment offers an additional range of other assistance and incentive packages to encourage regional study choices[6].

Education is a mutual responsibility shared not only between the Federal and State Governments[7], but also with industry and communities. To align skill supply with skill demand in the agricultural economy, decisions cannot be imposed top-down. To this end, the *National Agricultural Workforce Strategy* recommends the establishment of an AgriFood Tertiary Education Council, to be modelled on the Minerals Tertiary Education Council (Azarias et al., 2020). This body would aim to "coordinate strategic responses to education and training challenges and strengthen industry leadership." The Regional Australia Institute proposes an inclusive, systemic approach conceptualised as Regional Learning Systems:

> "Aligning skill supply with skill demand requires proactive and innovative education and training practices that involve a wide range of participants such as employers, young people, educators, trainers, older job seekers and even families and communities more broadly. It also requires that regional development actors and agencies assist with regeneration and job stimulus … These local and regional scale interventions are critical as the state and national systems are slow to change, and there are huge variations in the quality of human capital across Australia's regions (Houghton, 2019)."

Identification of appropriate training and education for emerging skillsets must come from the agricultural industry and the regional communities who need those skills. Implementation of appropriate training and education and incentivisation for students to continue or relocate their learning to regional areas must be driven by the responsible government agencies with a clear view to long-term, sustainable benefit.

[6] https://www.dese.gov.au/higher-education/study-regional-area

[7] respectively responsible for university funding and research, and for teacher training, school resourcing and curricula

3.1.2 Attracting skilled workers and enabling regional jobs

As with each of these priorities, opportunities for investment, incentivisation and intervention in attracting workers and improving employment opportunities are interdependent with the others discussed herein. In particular, this category is strongly aligned with uptake of digital technology (3.2), education opportunities (3.1.1) and better liveability (3.5).

The Australian agricultural workforce has changed significantly over the past several decades, adapting to trends in productivity and consolidation. Amalgamation of smaller family-owned operations into larger farming enterprises has resulted in owners and managers needing to upskill and act more often as organisers rather than conductors of day-to-day operational tasks. Between 1994 and 2014 the number of farm businesses fell from around 180,000 to about 110,000 - a decline of nearly 40% in 20 years. While this infers fewer on-farm jobs as economies of scale kick in, off-farm agricultural jobs have seen increasing demand for university graduates in the agri service industries, reflecting the need for new and sophisticated skills (Pratley, 2017). The skillset required in the agricultural workforce is inexorably changing to reflect increased adoption of digital technology, e.g. skills in data analysis, working with robots, understanding legislation, and interpreting ecosystem requirements (Heath, 2017). Human resource management and marketing to capture value are other areas where agricultural roles are expanding.

As the skills needs of the sector transition, the skilled worker shortage is brought into sharp focus. Attracting skilled workers to regional agricultural roles is an urgent issue which requires long-term commitments, such as those recommended in the *National Agricultural Workforce Strategy* (Azarias et al., 2020). These recommendations include (but are not limited to):

- co-designed employment partnership programs between Government and relevant industries, corporations and organisations
- an evidence-based campaign encouraging people to enter the agrifood sector (including development of an interactive workforce map to demonstrate the breadth of jobs, careers and education/training opportunities in the regions and agri industries)
- establishment of an 'Employer of Choice' award scheme to demonstrate leading HR and workplace management practices in the agrifood sector
- review and expansion of ANZCO and ANZIC classifications to better reflect current agrifood occupations and supply chain linkages
- establishment of a large-scale, multi-year fund to support innovative, collaborative projects to attract, retain and upskill the agrifood workforce

These suggestions are prime candidates for both stimulatory investment by governments and for industry engagement. Agrifood actors can also contribute to the virtuous cycle by identifying opportunities for extending the value chain into regional areas.

Spending which innervates regional processing of food and fibre, such as value-adding or manufacturing, will benefit regional economic development as well as strengthening the agricultural sector. Food and grocery manufacturing currently employs 276,000 people with 40% in rural and regional areas of Australia. There are numerous pathways to grow this sector, including through exports and innovation to meet the changing demands of consumers. It has been suggested that, with the correct incentives and intervention, the sector could double and grow employment by 54% within the decade; however, a number of challenges over the past decade that have hampered its profitability, dampened investment and hindered potential (AFGC, 2021). These challenges include the rising costs of food manufacturing compared to wholesale selling prices, a dearth of innovation R&D compared to global competitors and oppressive regulatory systems. Investment into energy efficiency (3.1) and physical access to markets (3.3), along with a review of regulation and renewed focus on relevant R&D, will counteract some of these issues.

Short-term thinking (from either government or industry) is anathema to the concept of the virtuous cycle. Decision-makers must envision goals for agriculture and regional communities at least a decade ahead, preferably many decades, and consider the alternative scenarios resulting from action or inaction.

A report prepared for CSIRO and Data61 (W. Wu et al., 2019)[8] presented four potential scenarios describing the supply and demand of the future agricultural workforce and labour use in 2030 (Figure 7). Two areas of leverage were found to be critical in determining the fate of agricultural labour trends:

- the **level of regional development** and
- the **extent of technology advancement and uptake** across the agricultural sector.

The movement from one future workforce scenario to the next depends on the level of investment in regional development and/or technology advancement.

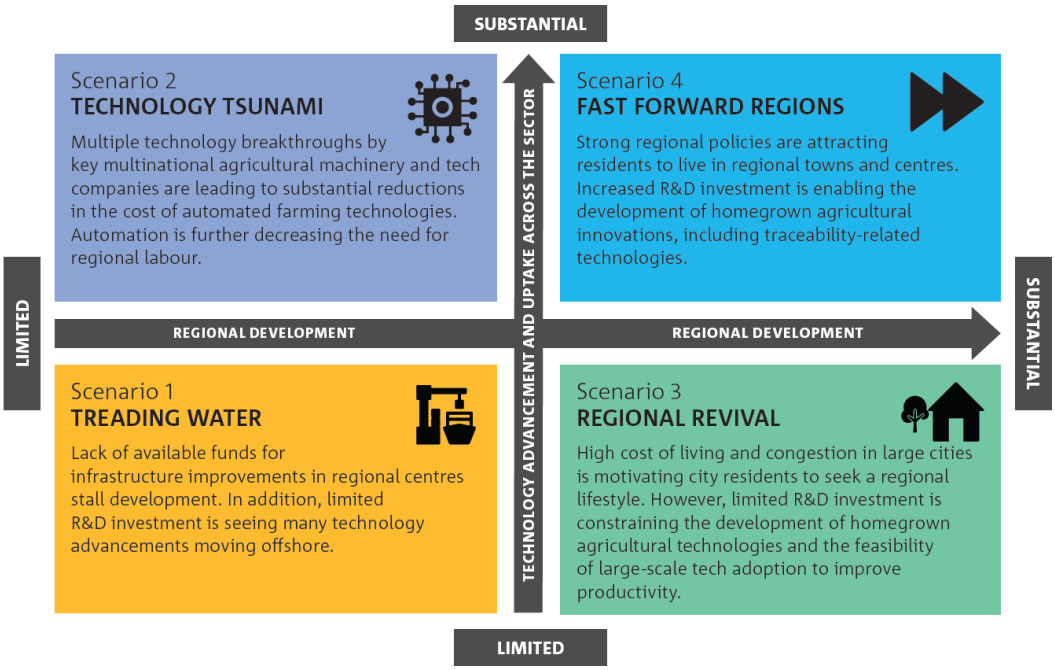

Figure 7: Four plausible scenarios for the future Australian agricultural workforce. Source: (W. Wu et al., 2019)

Limited regional development and technology advancement leads to the 'treading water scenario', in which regional infrastructure improvements stall due to lack of available funding and technology advancements move offshore because of limited R&D investment. If one lever is pulled without the other, progress occurs but is imbalanced; for example, if substantial technology advancement is added to Scenario 1 along with limited regional development, a 'technology tsunami' could occur, reducing the cost of automated farming technologies and decreasing the need for regional labour.

Since the publication of this report, the COVID-19 pandemic has arguably created a shift towards Scenario 3, 'regional revival', as people increasingly move away from capital cities to regional areas seeking a change of lifestyle and/or housing affordability (RAI, 2021). According to Wu et al., (2019), the missing driver of movement towards Scenario 4, 'fast forward regions', is substantial advancements in and uptake of technology across the agricultural sector (see *Section 3.2 Uptake of digital technology*).

Agriculture provides a diverse range of both direct and indirect local employment opportunities, on-farm, in associated industries, up the value chain and in service provision. Investment in initiatives which grow the agrifood sector will in turn grow other jobs which interact with agriculture. With technology coming to the fore, not all new jobs in agriculture will need to be regionally based; however, proximity to agricultural operations will always provide an advantage to both employers and employees – provided the region can offer potential employers a commensurate quality of life.

[8] *The future of Australia's agricultural workforce* (2019)

3.2 Uptake of digital technology

It has been widely reported that the full adoption of digital agriculture could yield an additional $20.3B to the gross value of the Australian agricultural industry (based on 2014-15 GVP levels) and increase the wider national economy's GVP by $24.6 billion (Perrett et al., 2017a). This in turn would have positive spillover effects to regional economic multipliers. It is less well understood how investment in agricultural technology and associated training could provide dual benefits to both the sector and to regional employment. (Perrett et al., 2017b).

Disruptive technology in food production is one of the megatrends shaping Australian agriculture identified in a recent ABARES/CSIRO report, which predicts that production and supply systems will become ever-more agile and interconnected, requiring new skills and partnerships, and creating both risks and opportunities for agricultural producers and regional communities (Hatfield-Dodds et al., 2021). It's also predicted that agtech could become an economic engine industry in its own right (NSW Government, 2021a). In parallel with agricultural production businesses, food and grocery manufacturing risks losing ground to imports unless steps are taken to boost investment in new technology. The Australian Food and Grocery Council has recommended implementation of a new grants program to support the uptake of advanced manufacturing technologies, and the creation of a high-tech training centre to give workers the skills to use advanced manufacturing equipment and emerging digital technologies (AFGC, 2021).

Referring to the 'virtuous cycle' of Figure 3, investment in digital skills training and education would logically strengthen the industry, thus providing more direct and indirect work, attracting additional migration to regions and creating flow-on benefits. Alternatively, lack of tech investment and a weaker ag industry (Figure 4) would see the sector's workforce languishing in Scenario 1 in the Wu et al. model outlined in *Section 3.1 Regional jobs, education & training* (Figure 7). This is in concordance with *National Agricultural Workforce Strategy* recommendations that State Governments should invest heavily in a future-ready agrifood workforce (Azarias et al., 2020).

Connectivity also remains a barrier for regional Australia in leveraging the full potential of digital technology solutions. **Acceleration of both digital infrastructure investment and tech adoption incentivisation should be focus areas of equal importance for decisions-makers.**

3.3 Physical access to markets

The viability of the agrifood sector is reliant upon access to efficient, reliable, robust infrastructure networks and sound, long-term strategic planning for physical access to markets. Regional supply chains are critical not only for industry but also to supply communities with basic needs; however, the local governments and agencies tasked with maintaining critical transport infrastructure are often inadequately resourced for the task (Infrastructure Australia, 2019).

Rural roads and transport systems provide connectivity with growing markets adjacent to rural areas, and also lessens both the input costs and transaction costs of rural producers and consumers (Llanto, 2012). However, many of the challenges for regional systems identified in Infrastructure Australia's 2015 Audit remain unaddressed, including inconsistent regulation which hinders efficiency and key regional bottlenecks for agricultural supply chains.

Inefficiencies in freight movements add costs and time imposts for farmers and value chain actors which can quickly erode productivity gains and profitability margins. Improvement to regional road, rail and bridge inventory will not only improve access for the agrifood value chain, but also increase connection to regional centres, enhancing liveability (NSW Farmers, 2020). Consideration must also be given to improving the governance of regional road networks, which the Australian Infrastructure Audit describes as inconsistent and lacking transparency, leaving maintenance subject to budget volatility at different levels of government (Infrastructure Australia, 2019).

While every region can nominate a piece of integral infrastructure overdue for much-needed investment, NSW Farmers has recently highlighted specific projects which would directly benefit that state's agrifood system as

well as regional residents; i.e. a significant upgrade to road access across the Blue Mountains to expediate transport of produce to Sydney's freight hubs (notably the Western Sydney airport agri-food precinct under development), and improved links from the capital's rail corridors to inland NSW. The 2018 Transport for NSW Freight and Ports Plan recognises the role of regional hubs but prioritises major centres. An assessment of the performance of infrastructure in Australia's smaller cities and regional centres found that many of these areas have the capacity to serve as service hubs and satellite cities, taking some pressure off fast-growing cities (Infrastructure Australia, 2019). 'Sub-hubs' in smaller regional centres could also help agricultural businesses to access freight forwarders more efficiently and cost-effectively (NSW Farmers, 2020).

In addition to prioritising essential infrastructure investment, access to physical markets can be improved by deliberate co-location of complementary businesses and via strategic supply chain scenario planning.

Incentivisation of regionally-based processing of food and fibre plays to the competitive advantages of businesses with a logical nexus in the regions (National Farmers' Federation, 2021). Co-location of food manufacturing near food production in particular offers significant logistical and efficiency advantages to the agrifood sector, while bringing more jobs to the regions, contributing to the virtuous cycle. In contrast, incentivisation of new non-agrifood business to regional areas may diminish the capacity of the sector to effectively contribute to local economies, for example by diluting the available pool of human capital (NSW Farmers, 2020). While government has an important role to play in kick-starting these kinds of complementary projects (processing, value-adding industries) in regions via grants, tax incentives, planning laws and the provision of infrastructure, long-term private investment will be crucial to ensure sustainability.

Jurisdictional responses to the Covid-19 pandemic have highlighted the fragility of supply chains around the world. While Australian agriculture consistently produces more food than required for domestic consumption, disruption to market supply must be mitigated. The swift designation of farming, forestry, fibre production, food and beverage production, agriculture saleyards and auctions and supporting businesses as essential services has mitigated the impact of pandemic restrictions on movement. However, scenario planning to manage the ongoing threat of zoonotic virus disruption must be prioritised to enable the continued delivery of food and fibre to domestic and global markets (NSW Farmers, 2020).

3.4 Energy efficiency

The trend of increasing energy costs, particularly electricity, and the impact of these costs on production and profitability have become increasingly concerning for agricultural businesses and their dependents. The cost of energy used by the Australian agricultural sector was estimated four years ago as $5.85 billion per annum, or 9% of GVP (assessed as energy costs incurred pre-processing) of the sectors analysed (Heath et al., 2018). Australian farms and agribusinesses operate in a highly competitive business environment, and as production systems intensify and utilise additional energy-intensive technology, their dependence on energy inputs increases. With digitisation and automation of agricultural production driving the next productivity step change within the sector, further electrification of farm processes will increase the sector's exposure to energy prices (Salardini, 2017).

Access to affordable reliable energy is imperative for continued sustainability and enhanced growth in the agricultural sector. As farm businesses face becoming uncompetitive due to the cost of traditional energy sources, many have considered renewable energy and off grid solutions. Likewise, regional communities are disadvantaged by an uncompetitive market, paying significantly more than metropolitan consumers particularly for electricity[9].

Complementary to the changing needs of the ag industry, investment in regional renewable energy projects can boost local employment opportunities (albeit more so in the short term), energising local economies. The Climate Council has proposed a Clean Jobs Plan comprising 12 policy opportunities to kick-start economic recovery, which collectively could represent 76,000 new Australian jobs over three years (AlphaBeta, 2020). The plan will require less than 0.5% of GDP in public funding (compared to current COVID stimulus funding

[9] https://www.vinnies.org.au/page/Our_Impact/Incomes_Support_Cost_of_Living/Energy/Map/

at around 3.5%) and is mooted to attract $1.10 in private investment for every public dollar spent. Farmers for Climate Action is similarly pushing for a regionally-led recovery with renewable energy as one of its primary pillars. The group's briefing paper suggests that strategic clean energy investment in the post-COVID recovery period could inject $50 billion into the Australian economy (Farmers for Climate Action, 2020).

Sustainable energy generation is the focus of the NSW Government's Renewable Energy Zone (REZ) strategy, which is establishing REZs in the Central West, New England, South West, Hunter/Central Coast and Illawarra regions. Significantly higher investment in renewable technologies is essential, particularly if Australia in going to meet its international commitment to the Paris Agreement (Heath et al., 2018). However, as with each of the elements listed under these themes, consideration must be given to **the interdependent needs of regional economies and agricultural industry**. Proximity to energy generation is only beneficial to an energy-intensive farm or agribusiness if the local distribution network can then offer a greater supply of cheaper energy. REZs are not designed to benefit local districts but to enhance the allocation of sustainably-sourced energy to the state-wide network. In addition, land use conflicts have arisen in NSW when energy projects are perceived as 'locking up' good agricultural land (McRobert et al., 2020). Management initiatives which enable co-benefits, such as grazing under solar panels, can reduce the impact of large-scale infrastructure projects Australian agriculture.

Microgrids can present more reliable and cost-effective energy supply options for regional communities, and can be complementary to farming operations for example by harnessing agricultural waste to energy. Care must be taken to avoid a vicious cycle by encouraging large-scale defection from the national grid, which then drives up energy prices even further, unless users' investment in local sources of electricity generation and storage is coordinated to optimise network outcomes (Salardini, 2017). The Federal Government's Regional and Remote Communities Reliability Fund is providing up to $50.4 million from 2019 to 2024 to support feasibility studies looking at microgrid technologies to replace, upgrade or supplement existing electricity supply arrangements in off-grid and fringe-of-grid communities located in regional and remote areas. For example, one successful grant applicant is investigating a Solar and Battery Microgrid for Cowra, NSW, which could potentially expand to include biogas powered electricity generation and thermal networks[10].

While there are potential benefits to agriculture of positioning renewable energy in regional areas, these must be weighed against the increased risks of land use conflict and loss/fragmentation of productive land. Examples of this have been seen in the Greater Hume region where solar generation development has caused conflict between farmers in the area (McRobert et al., 2020). Investments and incentivisation strategies to transform energy systems should minimise impacts on existing land use whilst seeking to maximise benefits for energy consumers, regional communities and the environment. In particular, energy generation and transmission infrastructure should ideally be positioned where there is least impact to arable or public land and irrigation areas and follow existing farm infrastructure (e.g. fence and boundary lines) where possible.

To assist in the post-COVID economic recovery while contributing to the virtuous cycle, governments should direct investment towards **increasing localised renewable energy generation opportunities for farm businesses and removing barriers to adoption**, while incentivising or prioritising those projects which demonstrate co-benefits. A low-carbon recovery could stimulate more economic growth and create more jobs than a high-carbon recovery. Incentivising regionally-targeted (not only located) renewable projects could have the multiple outcomes of contributing towards achieving sectoral and regional net carbon emissions goals while also decreasing energy costs and attracting workers to regions (Fox & McRobert, 2020).

3.5 Better liveability

Based on the notable trend to concentration of the population around urban centres between the 1930s and 1970s (Hugo, 2002), a common fallacy persists that the regions are continually losing people to cities. While Australia – and especially NSW – has a disproportionately high percentage of city dwellers compared to our

[10] https://www.business.gov.au/Grants-and-Programs/Regional-and-Remote-Communities-Reliability-Fund-Microgrids/Grant-Recipients

global counterparts[11], recent years have seen a net population gain for the regions. Thanks to COVID-19 border and travel restrictions, regional migration trends are even more distinct. In the 2020 September quarter our capital cities averaged a net loss of 11,200 people (Figure 8) – the largest decline on record, with Sydney the biggest 'loser' (ABS, 2021). The trend is continuing, with number of people moving from cities to regions in the March 2021 quarter 7% higher than in the March 2020 quarter (RAI, 2021).

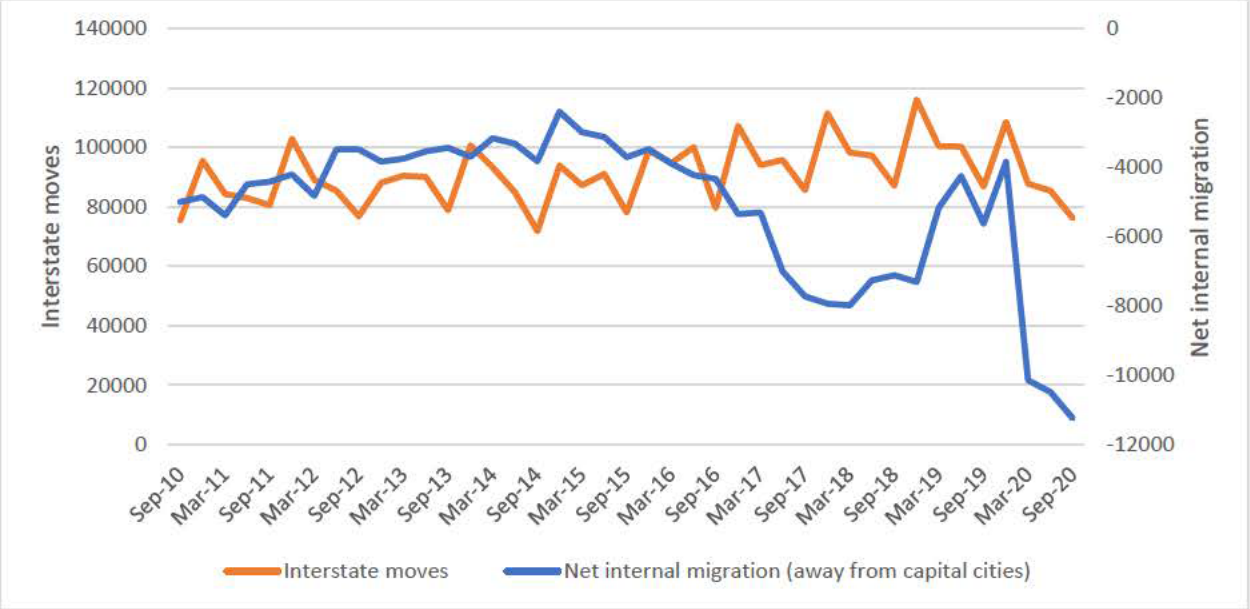

Figure 8: Interstate moves and net internal migration (2010-20). Source: (ABS, 2021)

Although the trend toward regions is already underway, sectors which are regionally based (such as agriculture) should work with governments to capitalise on this trend to ensure the influx creates a sustainable pool of human capital. More jobs equals more people, an expansion of services and a greater injection of social and intellectual capital in regions; however, liveability must be addressed if people are to *stay* in regions.

Discussion on regionalisation policy cannot avoid the 'inconvenient truths' regarding the gaps in services between urban and regional communities. Governments have to date lacked a clearly defined policy agenda in this space. If a region is under-serviced, any business seeking to expand or develop in that region will have to offer extra remuneration to compensate for the lack of amenity, which impacts the competitiveness of the business. Yet liveability is subjective and people make different assessments based on needs, desires and stage of life (Bourne, 2019), just as the workforce needs of local industries differ by region. Government investment in a regional primary school will not necessarily attract senior managers to an area, nor will the development of local co-working spaces attract field hands.

This heterogeneity underscores the need for 'place-based' approaches to regional investment, which attests that places can best develop and grow when policymaking is attuned to spatial particularities (Pugalis & Gray, 2016). Place-based development also seeks to avoid the fragmented or ill-informed service provision that leads to gaps or duplication of effort. To ensure that top-down and bottom-up approaches can occur harmoniously, an explicit decision framework to administer regional development investments would empower regional advocacy (National Farmers' Federation, 2021), guarding against the tendency of politicians to 'pick winners'.

Housing affordability and availability in particular is a significant influence in relocation decisions. However, housing availability in regional centres is under significant pressure due to urban migration away from the capitals. Prices are rising rapidly, and rentals are in short (or in some areas, non-existent) supply. Along with increasing numbers of urban migrants, a rash of tree-change investors are putting pressure on the regional housing market, exacerbating an issue which has been described as 'structural' due to distortionary tax

[11] Approximately 40% of Australia's population lives in Sydney and Melbourne (Select Committee on Regional Development and Decentralisation, 2018)

incentives (ABC News, 2021). Intervention and investment which ensures the provision of accessible housing will be a decisive factor in attracting and retaining skilled workers to regionally-based agrifood employment.

3.5.1 Health services

While the importance of access to quality healthcare services across Australia has been highlighted by the coronavirus pandemic, regional communities are significantly disadvantaged. In general, the health of rural people is poorer than that of their city counterparts (NRHA, 2020) and farmers have significantly higher health and safety risks than the general Australian population (FarmSafe, 2020). Compared to their urban counterparts, rural and remote residents not only have poorer access to primary health care services but also have higher rates of hospitalisation, death and injury.

The NSW Government *Rural Health Plan: Towards 2021* outlined several strategic areas for improvement in provision of rural and regional health services, including enhancing the workforce, strengthening infrastructure research and innovation plus improving rural e-health (NSW Ministry of Health, 2014). The 2017-18 progress report noted several areas where rural health services have improved against the strategic plan (NSW Government, 2018). Despite these modest improvements, a recent NSW parliamentary inquiry into the state's regional health system heard claims of shocking incidents, including rural hospitals frequently running out of vital medical supplies such as antibiotics and unsustainable levels of understaffing (NSW Parliament, 2021).

The healthcare and social assistance industries are predicted to require another 85,000 workers in regions through to 2023; however, evidence shows that, as with agriculture, it can be difficult to fill available healthcare jobs due to perceptions of poor infrastructure, services and amenity (Houghton, 2019).

At the national Regions Rising summit held by the Regional Australia Institute in March 2021, health services was a serious topic. When a delegate asked then-NSW Health Regional Minister Mark Coulton what to tell urban-based friends thinking of a move about the higher rates of infant mortality in regional Australia, the tongue-in-cheek answer - "don't tell them" - did not go down well.

Investment in this priority is not only a beneficial impact point on the symbiosis of agriculture regional economies but a social responsibility. The 'wicked' complexity of the issue should not be used as an excuse for nonfeasance, and urgent action must be taken to correct the disparities between urban and regional health services.

3.5.2 Cultural richness

The positive impact of cultural activity and diversity on regional areas is becoming increasingly recognised as an important component of regional development and resilience, contributing to people's sense of belonging and community wellbeing.

Like many of the components mentioned in this paper, cultural richness can both directly and indirectly benefit regional development. Direct impacts may include improved employment opportunities and income generation through tourism avenues. Indirect benefits include the development of the social capital needed to withstand hardship or disruption, via strengthening community identity and enhancing participation and creativity in public decision-making (McHenry, 2009).

There is some evidence to indicate that cultural demographic diversity positively effects labour market outcomes via greater creativity, innovation, and problem solving arising from a wider pool of skills, resulting in higher regional weekly wages (Elias & Paradies, 2016). However, the authors of this study urged further investigation.

The culture of Indigenous people in regional Australia is particularly important given the history of displacement and their resulting lack of social capital. Tension between culture of colonialism and traditional Indigenous culture can be problematic for communities to navigate, and resulting conflicts or lack of collaboration can restrict regional development (Collins & McMahon, 2007). Recognition of Indigenous culture by incorporating and learning from 'caring for country' in land management stewardship practices is an example of the beneficial impacts of embracing cultural richness.

Cultural richness plays a significant role in rural and regional revitalisation, but initiatives under this priority *must* be locally driven, locally resourced and regionally appropriate. Investment into this component of the virtuous cycle will positively contribute to liveability of regions, which in turn attracts population and subsequently contributes to a workforce for a stronger agriculture sector. Action on improving the stock and capability of these key liveability factors is vital to regions being able to attract and retain the people they need to grow (Houghton, 2019).

3.5.3 Water management policy and infrastructure

The majority of Australians take access to a reliable supply of clean water very much for granted; this is not the case for many of the 28%[12] of Australians living in rural and remote areas. Water is of course also the most pressing need for agricultural enterprises.

The allocation of water within the Murray-Darling Basin (MDB) is as contentious as ever, with NSW Farmers calling for an urgent review into the implementation of the MDB Plan, while the Environmental Defenders Office is challenging the validity of the NSW Government's Border Rivers Water Sharing Plan (WSP) in legal action.

Stimulatory spending cannot address policy concerns, but it can redress insufficiencies in infrastructure. More than almost any other sector, water management has come under extreme pressure from the challenges of population growth, climate change and changing user expectations; in particular, the potential risks and costs of climate change to water infrastructure are of great concern (Infrastructure Australia, 2019).

Water innovations such as recycling plants, solar panels on dams and smart irrigation are important but costly measures to employ. Economic stimulus measures provide a much-needed opportunity to invest in regional water use efficiency. This is vital not only to improve the liveability of regions but also to underpin the sustainability of agricultural enterprise.

Water security is a growing and fundamental challenge for the viability of regional NSW. This issue was emphasised during the last drought when many towns in NSW came within months of running out of water[13]. Investment and stimulatory spending in water use efficiency measures will improve the distribution of managed water resources, however a more fundamental assessment of water availability to regions - incorporating climate change projections - is required for long term planning of regional capacity for growth.

[12] https://www.aihw.gov.au/reports/australias-health/rural-and-remote-health
[13] https://www.abc.net.au/news/2020-01-27/how-long-until-drought-stricken-towns-run-out-of-water/11655124

4. Call to action

Australia's diverse agricultural sector feeds not only our domestic population, but also underpins food security for many of our neighbouring trading partners. With Australian farmers operating in one of the least subsidised environments in the world, it would be remiss of decision-makers not to seek out opportunities which strengthen the sectors' stability and longevity.

Investment, incentivisation and intervention decisions which prioritise building regional economic opportunity through increased agricultural industry will have the symbiotic outcomes of enhancing both the sustainable growth of the farm sector and the long-term viability of regional communities. Strong regional economies help farmers do better, and farmers are providing an essential community service. Interventions under the three themes (**connectivity, infrastructure and workforce**) discussed herein will contribute to a virtuous cycle which will underpin broad-reaching, beneficial socio-economic outcomes (Figure 9).

The most directly beneficial areas in which to direct regional stimulatory spending to benefit the agricultural economy (and in turn support many regional economies) are those emphasised in Section 3 of this report, specifically targeted at the five priority points: regional jobs, education and training; uptake of digital technology; physical access to markets; energy efficiency, and better liveability. In particular, the AFI strongly recommends[14] such stimulatory funding should address:

- provision of expanded **education opportunities** across all levels of schooling[15]
- co-designed **employment partnership programs** between agricultural industries and Government
- acceleration of industry and regional **digital capacity and capability** via targeted investment in infrastructure and skills
- incentivising co-location of **complementary businesses** via strategic supply chain scenario planning
- the urgent remedy of those **physical infrastructure limitations** which hamper the sector's efficiency and impinge on regional liveability

The 2020 pandemic has highlighted the advantages of secure food sovereignty. In times of great economic stress and uncertainty, the agricultural industry ensured ample food stocks were available to replenish supermarket shelves. In doing so, the sector created a buffer which lessened the socioeconomic disruption resulting from business shutdowns.

Put simply: as farmers feed us all, we as a society have a responsibility to ensure the sector *remains productive* and *continues to provide food security*. Without interfering in markets to a degree that could create perverse outcomes, this investment, incentivisation and intervention could - and should - be done in a manner that ensures vibrant regional communities can thrive, improving quality of life for regional Australians and taking pressure off overstretched urban systems.

It is essential that decision-makers in government and in industry strategically think about and act on the themes and priorities presented here, envisioning goals for agriculture and regional communities many decades ahead and carefully considering the scenarios resulting from inaction.

[14] NB – these are high-level recommendations, as a plethora of reports, suggestions, position papers and initiatives are already on the table regarding these suggestions. The authors cannot stress enough the imperative for decision-makers to resist the urge to call for more reviews and to instead act upon the available information, as summarised in this report.
[15] e.g. via greater investment in the Primary Industries Education Foundation Australia (PIEFA), and establishment of an AgriFood Tertiary Education Council and/or Regional Learning Systems as urged by the National Agricultural Workforce Strategy and the Regional Australia Institute respectively.

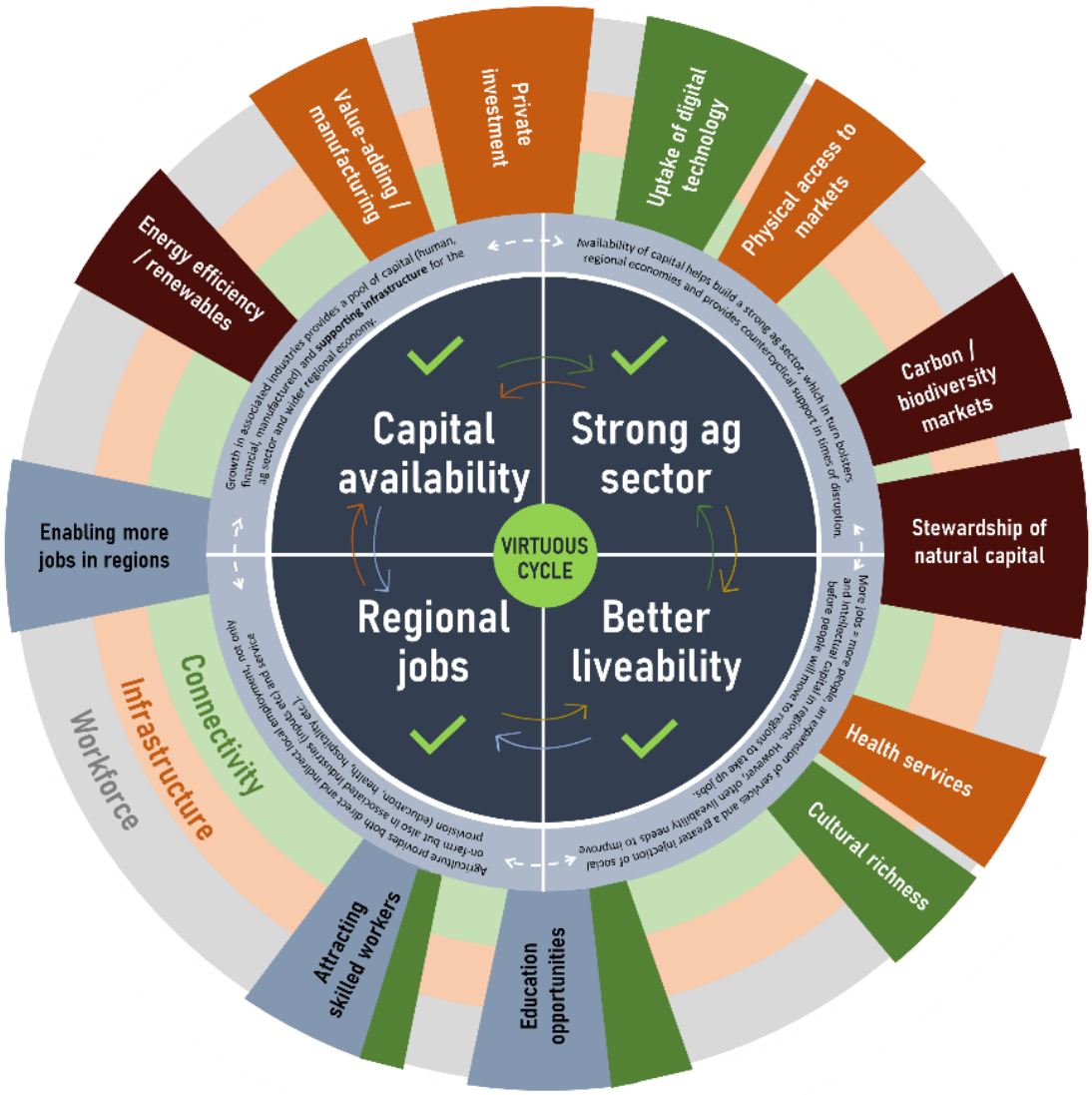

Figure 9: A virtuous cycle for a stronger ag sector and stronger regions – the big picture

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