

Grower Group Alliance Submission to the Regional Telecommunications Independent Review Committee review of the adequacy of telecommunications services in regional, rural, and remote parts of Australia.

1. What telecommunications services are required in regional Australia to meet current and future needs? Are there any things regional communities and businesses need to do, but can't, on their existing services?

Regional communities are increasingly reliant on telecommunication services as physical services diminish in regional areas. The implications are that regional businesses and communities are increasingly reliant on technology and data-based solutions and this puts significant pressure on telecommunications service capacity. Essential services are increasingly being delivered virtually, including healthcare, banking, and education, and this increases the importance of service capacity to being critical for supporting basic community function.

Poor telecommunication services are currently hindering the progress and liveability of regional areas and is likely to be contributing to a reduction in population in rural, regional, and remote areas of Australia. This impacts on farm businesses being able to recruit and hold key staff for running of farming businesses.

Notwithstanding the interdependence and entwined nature of agriculture and regional communities, the focus of this Grower Group Alliance (GGA) submission is on the impact of telecommunications services on the broader agricultural industry and specifically on farming businesses in regional areas of Australia.

Farm businesses are currently inhibited by the current range of telecommunications, let alone the future needs of agricultural businesses. The impact is broad and can range from annoying and inefficient - for example, a morning allocated to pay invoices can be extended over multiple days due to accessibility issues to cloud based accounting systems, online banking and supplier portals - through to the life threatening whereby emergency services cannot be contacted after a farm accident. For farming communities to continue to improve their productivity and innovation to compete on the global stage, a significant step change in regional telecommunications is required.

The future need for telecommunications services to the agricultural industry include:

- **Access and coverage** – vast areas of farmland between regional centres have limited to no telecommunication services. This is likely to inhibit the future increase in value of agricultural production as the embedded connected nature of technology in machinery, monitors and automated equipment will drive production efficiency and profitability through the adoption of the Internet of Things (IoT).
- **Performance and capacity** – Future farming practices will require large volumes of data to be transmitted and processed in real time to manage an increasingly complex farming system. An increasing trend of farming businesses is to invest in farm-based customised systems that connect and power their IoT systems, and this approach is reliant on high capacity access – a fire hydrant of connectivity – to the broader telecommunications service for farm businesses. This is in contrast to current telecommunications services that are based on 3G across most of regional Australia which was designed for voice communication and is not suitable for this new wave of data transfer. The current system means that large areas of coverage is poor performing and not congruent to modern day applications.
- **Reliability** – The 'fire hydrant' of service capacity needs to be stable and resilient as large business management decisions, production efficiency, and essential services will need to be relied upon by the regional communities. This truly makes dependable connectivity a life and death matter.

2. What changes in demand, barriers or challenges need to be addressed when it comes to telecommunications services in regional, rural and remote Australia?

Access and coverage - The typical measure of telecommunications coverage is expressed in population percentage terms. This is ineffective to characterise the coverage of regional Australia that has a naturally low resident population. In contrast, the percentage of internet of things (IoT) devices used to drive businesses are likely to be significant higher per capita compared to urban areas as farm businesses strive to do more with less. Farm businesses are increasing in size through consolidation and farmers must do more with fewer workers and efficient processes; connected devices are increasingly becoming critical to undertaking the business of farming. Farm automation is one example of the need for increased connectivity to combat efficiencies of scale. The use of tools such as remote water point monitoring are currently in use by many larger farms that may be spread across many properties that may be up to 100 kilometres apart from the home property. The checking of water sources, although critical to animal wellbeing and production, is inherently inefficient as properties get larger. Improved connectivity assists in innovations which prevent the need to physically check as well as improving the efficiency of travel time through connected communication ability.

Performance and capacity – The evolution of software as a service (SaaS) cloud based platforms means that the completion of essential business functions are reliant on a high performance connectivity. 3G networks, designed largely for voice communications are inadequate and 4G networks are under duress with increasing volumes. The future needs of farm businesses will require access to multiple SaaS services, IoT device connection, video meeting and email access, and online child education all at the same time while still having capacity for essentials such as healthcare and emergency services. Decision making is moving to real-time with monitoring and mapping rainfall, soil and air temperature, soil moisture, Delta T and other telecommunications delivered live data. Demand is expected to exponentially increase the volume of data needing to be transmitted through telecommunications services. Expandability of current and future services will need to be factored in to ensure that future performance can keep up with the needs of the agricultural community.

Reliability – The shift towards SaaS services, farm automation, and online essential services will require telecommunications services that are reliable. This is particularly important for critical functions of farming operations including those relating to worker safety and animal welfare where a breakdown in telecommunications can have significant consequences for business performance, health and safety, and social licence.

3. How have the Government's policies and programs affected telecommunications service outcomes in regional, rural and remote Australia? How can these be improved?

Due to telecommunications being critical infrastructure (whether provided publicly or privately) government policies and programs underpin the state of today's regional telecommunications services.

It is suggested that a 'one size fits all' approach is not suitable and regional areas should have specific telecommunication service policies separate to large population centres. For example, removal of 3G services, although understandable from an urban perspective, is likely to result in sub-optimal connectivity regressing to no connectivity in the regions.

To that end, it is expected that aspects of service provision, in particular base levels of connectivity infrastructure, would need to be 'public good', shared by service providers and accessible directly by farming operations for distribution across their properties.

4. How do service reliability issues impact on regional communities and businesses? How do outages, including in natural disasters, impact on communities and businesses?

The major issue with outages is timeframe. Farming businesses are increasingly reliant on connectivity and outages can significantly impinge operations – with the longer the timeframe the greater the impact. A recent example in Western Australia, Cyclone Seroja, saw many Northern wheatbelt farm operations without mobile services for multiple weeks. As a result, public messaging couldn't be shared, businesses couldn't operate effectively, families couldn't contact loved ones – almost all aspects of life were impacted.

In addition to specific Telecommunications Infrastructure, consideration should also be made to supporting services, in particular power.

5. How might such impacts be addressed to ensure greater reliability? How can the network resilience be addressed in regional areas?

Appropriate contingency planning should be undertaken for each region with flexible response systems able to be mobilised within a set time period should outages occur.

The ability for temporary communications infrastructure to be reinstated within 48 hours of a natural disaster would allow for farm businesses to resume much of their productive capacity, acknowledging the severe impact and disruption that a natural disaster can have on a farming business.

6. How did the use of digital services change for regional consumers and businesses during the response to the COVID-19 pandemic? What insights for future service delivery does this provide?

Covid 19 helped to quickly change behaviours toward the use of online services to maintain adequate levels of business function. Tools such as Zoom, Webex and SharePoint were rapidly embraced by farming businesses to replace face-to-face meetings and information sharing needs. The success of these tools to drive business productivity is evident, especially in addressing 'the tyranny of distance', where a half day meeting may take three days travel each-way to attend, can now be completed with no travel and a web camera. The consequence is that farming businesses are more closely connected and can more regularly connect to their support services such as finance, accounting, and suppliers.

The closeness of farm business owners with industry encourages greater participation and leadership in the industry and this is likely to increase the representation of the regional community on boards, working groups, and in broader decision making and industry governance. The participation of all members of the farm business in creating value can be realised through wives and partners of farming businesses being able to pursue or maintain existing careers that would normally be unable to be completed. The outcome of this will be an increased capacity for industry to develop 'grass roots' solutions that increase the impact of future investment in the regions.

It is most likely that these behaviours are now entrenched as an improvement to pre Covid business management. This applies to farm businesses and the businesses that support agriculture (both regionally and urban located) as all businesses are able to connect more frequently through online platforms. It is anticipated that this can have multiple clear benefits for farming businesses:

1. Farmers can manage their operations without having to be on-farm all of the time.
2. Regional service businesses can broaden their market increasing viability.
3. Certain off-farm careers can be pursued remotely irrespective of on-farm location

7. What can be done to improve the access and affordability of telecommunications services in regional, rural and remote Indigenous communities?

Access to reliable and high performing telecommunications services is considered the most important consideration for regional farming businesses. The increasing trend of farm businesses to invest in farm-wide customised connectivity systems for IoT devices, machinery management, and data transfer will develop localised systems that are highly effective at meeting the needs of farmers for on-farm connection which will enhance productivity, innovation and profitability. The amendment of any policies that inhibit private/commercial development of these systems will need to be addressed to enable further investment.

While farmers are prepared to invest in on-farm infrastructure, this approach is severely limited by access to a reliable and high performing internet connection, a ‘fire hydrant’ of connectivity that can handle farm business needs. This fire hydrant approach will need to be replicated across a large area of regional Australia so that access is available to the greater proportion of farm businesses. This is essential to ensure a viable Return on Investment for the private investment.

It is considered that access (reliability and performance) is more important than affordability for farm businesses at present.

8. How can investment in telecommunications infrastructure work with other programs and policies to encourage economic development in regional Australia?

9. What role could innovation, including new models, alternative investors or new ways of doing business, play to encourage investment in regional telecommunications infrastructure? What are the barriers?

It is recommended that synergies be sought to improve regional telecommunications infrastructure alongside other public infrastructure work. This could include using rail reserves, road works and power upgrades.

There is currently significant investment by private companies to provide connectivity to an increasing area of regional Western Australia that will benefit farm businesses by addressing the issue of access and performance. These systems are largely dependent on the availability of a ‘fire hydrant’ connection to telecommunications services to be effective.

The investment telecommunications infrastructure needs to be open and available to private networks that can add value to the backbone of connectivity given by federal investment. There is limited value of two competing service providers locating mobile towers side by side when there is a black spot ‘over the hill’.

Farmers have a long history of embracing innovation and which has been continuing into the telecommunications era. It is anticipated that if provided with a reliable and high performance public ‘node’, farmers would work to develop cross farm coverage whether that is via mobile equipment that follows active farming operations, complete farm coverage with fixed infrastructure or a hybrid.

An increase in the coverage, reliability and performance of telecommunications services will greatly increase farm business efficiency.

10. To what extent will new technologies enable significant change to the delivery of telecommunications services in regional Australia over the next 5-10 years? Are there any barriers to accessing these technologies?

It is anticipated that new technologies will need to be developed to find ways of providing access points to the internet that overcome the ‘tyranny of distance’ in achieving greater access and performance. The support of government for small businesses and start-ups to investigate new technologies and approaches will be pivotal to developing delivery technology that is effective. In addition, the increase in demand for greater connectivity will also drive innovation. This is evident in the battery industry, which has been largely based on lead-acid

batteries for nearly 100 years. In the last 10 years, the development of lithium and now solid state batteries has been encouraged by the need for rapid recharge and deep discharge batteries to electrify much of our transport industry.

A key barrier to new technologies is access to skilled capacity. Developing and maintaining privately owned telecommunications infrastructure and connected devices requires skillsets not readily present in regional areas.

11. How can Government better support the rapid rollout of and investment in new telecommunications solutions in regional areas?

12. How can different levels of Government, the telecommunications industry and regional communities better co-ordinate their efforts to improve telecommunications in regional Australia?

13. What changes to Government investment programs are required to ensure they continue to be effective in delivering improved telecommunications?

It is important that:

- Government supported infrastructure is upgradeable and open.
- Government sets transparent performance targets and is accountable to delivering.
- Government recognises that commercial operators driven by volumes are not going to be the panacea for sparsely populated regions burdened by distance.
- Regional communities are engaged.
- All levels of government work more effectively together with greater cooperation, reduced politicisation, and co-investment. Often public sector responses are fragmented, particularly across Government and between Federal and State jurisdictions, where due to political rivalries, initiatives often appear diametrically opposed to each other. There needs to be a greater collective focus on how first-class services can be delivered to rural and remote Australia.

14. How can regional consumers be better supported to identify, choose and use the best connectivity options for their circumstances, as well as to understand and use their consumer rights?

Information on competitive optionality is not currently considered an issue in WA's regional areas. More commonly, there is no option or only one option (poor or otherwise).

15. To what extent is public information on connectivity options, including predictive coverage data and speeds, sufficient to help regional customers make informed decisions? What other information is needed?

Consumer education is required around what connectivity enables (e.g. what speed is required to run a soil moisture probe vs what's required for a videoconference). In addition, coverage does not necessarily translate to access. For example, it's possible to have several bars of mobile reception, but no actual ability to access a signal as the receiving tower is overloaded.

16. What other matters should the Committee consider in its review and why are they important?

It is important for the Committee to test recommendations with regional stakeholders. The variation in services is significant and a logical response in one area is sub-optimal in another. The Grower Group Alliance, through its network across Western Australia, is well positioned to assist the Committee with this.