



Regional Telecommunications Review

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About NSW Farmers

The NSW Farmers' Association is Australia's largest state farming organisation representing the interests of its farmer members. NSW Farmers is Australia's only state-based farming organisation that represents the interests of farmers of all agricultural commodities. Our purpose is to build a profitable and sustainable New South Wales farming sector.

Our focus is not just on issues affecting particular crops or animals – it extends to the environment, biosecurity, water, economics, trade, and rural and regional affairs. Our industrial relations section provides highly specialised advice on labour and workplace matters.

Farmers across New South Wales produce more than \$15 billion worth of food and fibre every year, approximately 1 quarter of Australia's total agricultural output, and has the goal to deliver \$30 million in economic output by 2030.,.

Our regional branch network ensures local voices guide and shape our positions on issues, which affect real people in real communities. Our Branch members bring policy ideas to Annual Conference, our Advisory Committees provide specialist, practical advice to decision makers on issues affecting the sector, our 60 member Executive Council is the final arbiter of the policies of the Association.

Executive summary

With greater reliance on digital communication, both for business and personal use there is an assumption that all with mobile and internet connections can equally access this type of service and information delivery. It should be a given that all users should expect to have equitable access to quality, reliable and affordable telecommunications. However, this is not the case, and the digital divide between rural and urban Australia continues to grow.

In rural, regional and remote areas of Australia many barriers remain, resulting in challenging access to critical telecommunications services. These are in part due to the ever-changing technology available that exacerbate the existing concerns about stability and surety of access.

Farmers and regional communities continue to experience the challenges of mobile 'black spots' – in their homes, across their farm business footprint, and in regional communities. In some instances, this is due to topography that disrupts signal; in others, this is due to the perceived lack of adequate infrastructure to cover large distances resulting in low signal strength that reduces access to technology applications such as videoconferencing.

In mid-2021, NSW Farmers conducted a member survey to understand the changes and effects of technology accessibility in regional, rural and remote areas. This feedback forms the basis of this submission.

The key themes from this survey indicate concern about deteriorating services over recent years, delays in service repairs, lack of competition, and significant uncertainty regarding the change in mobile network technology from 3G to 4G then 5G. Safety concerns due to a lack of phone service were also a strong theme, whether it be on farm where workers often carry out tasks in isolation, travelling on regional roads, or in cases of emergency such as bushfires.

In addition to these challenges, unreliable and intermittent telecommunications are preventing take up of new agricultural technologies such as the *Internet of Things* to increased farm productivity and profitability. Concerns about negative impacts on the productivity and efficiency of the farm business, and inconvenience caused by unavailable and unreliable telecommunications were significant issues.

Similarly, limited, unreliable, or absent mobile and internet services have impeded primary, secondary and tertiary studies for remote learning for farming families.

It is clear that regional, rural and remote users consider that infrastructure has not kept pace with the expectations of use of telecommunications. Improvements to rural, regional and remote telecommunications infrastructure are required to provide fit-for-purpose access to what is increasingly essential services. It is of concern that new ways of delivering infrastructure do not appear to be priorities, nor does there appear to the customer that there are efficiencies in new infrastructure rollout. There is increasing evidence of the need to rethink shared infrastructure and further investigation of options for regional roaming.

Recommendations

Certainty

1. Government recognises that current telecommunication services in regional, rural and remote Australia are not adequate to meet current and future needs and funding to redress this imbalance prioritised.

Mobile quality, reliability and coverage

2. Australian Government funding for the mobile black spot program (MBSP) be ongoing, and ensure that it is effectively extending coverage to areas without handheld or antenna mobile coverage.
3. The Department of Communications, Urban Infrastructure, Cities and Arts commence a review into the performance and coverage of mobile towers erected under the MBSP to determine if towers are operating to industry standards and community expectations.

Mobile Access

4. The Australian Communications and Media Authority (ACMA) investigate and monitor widespread mobile outages in regional/remote Australia, and reliability of mobile infrastructure.

Technology Transition

5. That the transition from 3G to 4G and 5G in regional, rural, and remote areas does not reduce access or reduce the quality and certainty of telecommunications in these areas.
6. A 'measurement of program outcomes' (impact and value) is included as a requirement in all current and future government programs.

Internet quality, reliability and coverage

7. The Universal Services Guarantee ensures and maintains the rights of regional and rural customers in regards to the timely repair and resolution of faulty copper landline and fixed line services so that consumers are not digitally and socially isolated.
8. The ACCC and Mobile Network Operators continue to work together and provide access to independent, accurate mobile coverage mapping as this will assist consumers to make informed investment decisions and provide industry and government with the ability to identify regional telecommunications investment across the coverage map.

Landline

9. That the development of the Universal Services Guarantee to include broadband and mobile services, does not diminish access to, and ongoing commitment by Telstra to provide adequate funding for fixed voice and copper continuity.

Reliability

10. Telecommunications is legislated as an essential service in all states and territories, and that providers be required to ensure service prioritisation to meet this definition and essential user status prioritised in areas at significant risk of natural disaster events.
11. Government agencies retain alternatives to online services such as forms and applications until adequate and reliable telecommunications services are available to people living in rural, regional and remote areas, including recognition of the challenges of those with special needs.

Complaint handling

12. Prioritise strategy and associated funding to support consumers access product agnostic digital literacy assistance enabling them to make informed decisions about telecommunications purchases to fit their needs.

Affordability

13. *Ensure that access to educational resources, services and information for primary, secondary and tertiary students over nbn SkyMuster satellite and fixed wireless is reliable and cost-effective for all, presently and into the future.*
14. *Work, underpinned by ongoing independent analysis, undertaken to improve price parity for access to telecommunications services between rural, regional and remote; and metropolitan areas. In particular, access to quality, reliable internet services with adequate speeds and data availability.*
15. *Introduce rebates for boosters and external aerials to reduce telecommunications disadvantage in rural, regional and remote areas and improve safety outcomes.*

Infrastructure

16. *Maximise infrastructure efficiency by increasing opportunities for shared access.*
17. *Introduce roaming in regional, rural and remotes areas.*
18. *Implement a long-term strategy to provide connectivity between small cells in remote areas where small cell infrastructures is the current preferred infrastructure option.*

Telecommunications certainty

Like all Australians, farmers require quality, reliable, and affordable access to telecommunications to complete everyday tasks from business activities, to education, to catching up with family and friends.

A key requirement of quality and reliable telecommunications is certainty of access; that is, access to quality telecommunications whenever it is required or desired.

To achieve this, the consumer must first gain access to an appropriate telecommunications service for their location, and then must have continual access to that service no matter the weather, time of day or number of users.

Unfortunately, uncertain and unreliable access is amongst the most common telecommunications challenges faced by regional Australians.

In a recent NSW Farmers survey with 866 responses undertaken in mid-2021, poor coverage and lack of continuous access during voice calls were the predominant mobile service challenges. These followed by poor or non-existent internet access; unreliable quality of connection; and high cost compared to access and reliability.

It is imperative that certainty of access improves in regional, rural and remote areas of Australia to provide equitable telecommunications aligned with the certainty of access currently experienced and expected by consumers and businesses in metropolitan areas. The importance of access is underpinned by the imperative for continued participation in a society and a business and compliance environment that is increasingly reliant on digital delivery of service.

For people living in regional, rural and remote areas it can be very challenging to identify the best telecommunications service provider to use. While there may be fewer options for many regional consumers, it is difficult to gain an independent understanding of available options for different sets of circumstances. Often the consumer will need to discuss different options with different providers, making it difficult and time consuming to compare services and make an informed decision.

Another facet of this issue is the ability to gain accurate advice about services, as service quality may differ in practice compared to the information available to the provider. NSW Farmers' acknowledges that coverage is affected by variable factors, including the demand on a particular tower and the type of network devices used. However, it is a commonly reported service access is much more uncertain than the consumer understood at the time of purchase their service.

Respondents to NSW Farmers' the 2021 telecommunications survey indicated concern regarding the accuracy of information regarding accessibility from their service provider. While 22% considered the advice was accurate and 43% were neutral, 18.9% considered the information was inaccurate and 11.7% very inaccurate. NSW farmers' understands this stems from a lack of detailed knowledge of the customer, including – their location; their technology being used or considered; and in some cases due to the disconnect between the language of a technology provider and the end-user.

The following comments provide examples of the concerns.

- *“They tell me internet is fine with speed test but I cannot hold a zoom call for an extended period and can't even open the speed test some days. But that is good service they tell me.” (2829, Coonamble region)*
- *“NBN Satellite SkyMuster service is very inadequate. Upon conducting speed-tests and consulting w SkyMuster, I was told they were “within their threshold” so they would not be doing anything about it. It is far from adequate to run a business with.” (2453, Dorrigo region)*
- *“We have previously transferred all telecommunications from ADSL to NBN. We had to revert back to ADSL because satellite NBN was very unreliable and very slow.” (2250, Gosford region)*
- *“NBN download speed through copper connection is terrible. Mostly only 3-5 Mbps when should be 25mbps.” (2594, Young region)*

RECOMMENDATION

1. *Government recognises that current telecommunications services in regional and remote Australia are not adequate to meet the current and future needs, and funding to redress this imbalance prioritised*

Mobile Service

Quality, reliability and coverage

Despite significant progress under the Australian Government’s Mobile Black Spot Program, poor mobile service and Mobile Black Spots continue to represent a major challenge preventing rural and regional Australians from accessing telecommunications services.



Figure 1: NSW Farmers survey respondents’ location and satisfaction with mobile service coverage – May 2021

The May 2021 member survey sought to quantify the challenges for mobile service users. Of the 859 responses to challenges faced with the mobile service, the following represents the spread of responses:

- 73.4% reported poor coverage – loss of signal away from residential buildings
- 72% reported loss of continuous access during voice calls
- 54.6% reported lack of internet access
- 52% reported unreliable connection quality
- 50.2% reported concern of the cost compared to the reliability of access
- 30% reported the challenge of restoring service following un-planned outages
- 22.7% indicated reduced coverage since the onset of the COVID-19 pandemic.

Respondents also identified their satisfaction with mobile service coverage – 33.4% were unsatisfied; 45% very unsatisfied; and 10% were neutral. Only 11% were satisfied or very satisfied

Respondents responded to their mobile user experience by rating the quality, reliability and coverage of their service across a range of usual locations – the spread of responses is included below.

Quality	Poor	←————→				V.Good
	1	2	3	4	5	
Mobile coverage in your home	46%	20%	18%	10%	5%	
Mobile coverage elsewhere on your property	47%	27%	16%	8%	3%	
Mobile internet availability	50%	24%	16%	7%	3%	
Mobile coverage while travelling	34%	31%	24%	9%	2%	
Reliability	Poor	←————→				V.Good
	1	2	3	4	5	
Mobile coverage in your home	49%	21%	17%	9%	5%	
Mobile coverage elsewhere on your property	53%	25%	13%	6%	3%	
Mobile internet availability	54%	22%	16%	6%	2%	
Mobile coverage while travelling	39%	31%	21%	7%	2%	
Coverage	Poor	←————→				V.Good
	1	2	3	4	5	
Mobile coverage in your home	54%	20%	13%	8%	5%	
Mobile coverage elsewhere on your property	55%	25%	12%	5%	3%	
Mobile internet availability	57%	22%	13%	5%	3%	
Mobile coverage while travelling	41%	30%	21%	7%	2%	

Safety

Concerns related to coverage while travelling or across the farm property are significant. If there is an accident, either on farm or on a regional road, where help is required, it may be impossible to access unless another person comes across the situation and can assist. This person may then need to abandon the person needing assistance in order to raise help. This was raised repeatedly in relation to both black spot road and farm situations, unfortunately a number of members were able to provide examples of when this has occurred.

In bushfire or other emergencies, a lack of telecommunications can inhibit the ability to inform people of the emergency (including those who can assist), the ability to stay informed of current advice regarding the situation, and the ability to contact others for assistance.

Many NSW Farmers’ members are also members of their local Rural Fire Service (RFS) brigade. These members provided examples of a number of black spots, where their fire shed was located, or where local members lived; significantly impeding efforts to combat fires as quickly as possible. The *RFS Activ App*, designed to alert RFS members when there is a fire, but this requires mobile phone service.

Similarly, many RFS members continue to use pagers, which also rely on mobile phone service. One NSW Farmers' member, who is also an RFS Captain, indicated that there is no time to email or ring landlines to contact each member individually. However, with the poor mobile phone service in the area, it can be very difficult to make timely contact. This member also noted that while their Fire Shed has been recently been upgraded, and had the potential to be used as a staging area, this was not possible due to the poor mobile service at the location.

The following member comments highlight additional safety concerns around mobile black spots:

- *"I recently had a seriously injured worker and had to make a decision to stay with him and try to keep him alive or go for help as there was no mobile coverage. This was not a position I should have been in and could have resulted in another farm death."* (2868, Yeoval region)
- *"Only 100km from Canberra - can see the glow of Canberra at night - but have zero mobile reception and extremely unreliable land line. Rely on wifi calls - so if power is out I have no communications at all, which is scary. Telstra always starts out any call by suggesting they divert all calls to mobile, then disbelieves when I say we have no coverage."* (2581, Lake George region)
- *"A major issue is the lack of mobile and internet coverage, particularly communicating with neighbours in the event of bushfires. No one uses radio anymore so if fire happens it can be extremely difficult contacting people. I am the secretary of our local RFS brigade. While protocol is to ring 000 practically the next thing to do is call everyone's mobile phone to discuss action. The other issue is we desperately need improved mobile coverage in the case of farm accidents and/or snake bite etc. Agriculture is one of the most dangerous industries and communication is vital to save lives. Telecommunications are vital to combat the loneliness and isolation of living on farms. There have been several suicides which might have been prevented had better communication been available."* (2329, Merriwa region)
- *"Too many blackspots along major highways and hard to contact emergency services in case of accidents, or to contact NRMA for road side assistance, or to access Live Traffic updates in case roads are closed."* (2831, Nevertire region)
- *"Safety is my main concern. If we have an on farm accident, with no mobile phone/internet service the time it takes to get to an area with service or for someone to find the injured person could be the difference between life/death. Additionally when connecting our home phone, the service provider could not comprehend that we didn't have mobile service for him to ring and arrange appointments. This caused major delays and cancellations to our connection so we were without landline, mobile service or internet for well over 6 weeks. If we had an emergency we would have had no way of contacting services without delay."* (2843, Coolah region)

RECOMMENDATIONS

2. The Federal Government fund the Mobile Black Spot Program (MBSP) in perpetuity, and ensure that it is effectively extending coverage to areas without handheld or antenna mobile coverage.
3. The Department of Communications, Urban Infrastructure, Cities and Arts commence a review into the performance and coverage of mobile towers erected under the MBSP to determine if towers are operating to industry standards and community expectations.

Diminishing Access

In addition to continued inability to access mobile service in some areas, many NSW Farmers members have been reporting a decline in the quality and reliability of their service over time. This has been a reported problem across mobile, internet and landline/fixed voice services.

This deterioration appears to have worsened since 2018, when 30% of respondents to a NSW Farmers telecommunications survey indicated that their mobile coverage had deteriorated. This year's survey indicated that over the past 12 months to June 2021, 65% of members consider that the quality of their mobile network coverage has declined.

In 2018, 59% of members reported a decline in the quality of their internet connectivity, and over the past five years, 44% noted a decline in the quality of their fixed line service.

The following member comments illustrate some of the common frustrations of diminishing access to telecommunications:

- *"It is unsafe to drive on roads with no service. 5 years ago, I had phone reception all the way from my home near North Star to GOONDIWINDI (70km). Now service is only in a few places" (2408, North Star region)*
- *"Our internet service is generally really good. Our mobile phone service and coverage is really pathetic. Even life threatening. Not reliable at all. As bad as twenty years ago, maybe worse at times." (2665, Ardlethan region)*
- *"Both mobile phone and internet have declined in past 12mths particularly, how are you supposed to run multiple businesses from home if you have to stand out in the back paddock to get service?" (2700, Narrandera region)*
- *"Service quality has declined SIGNIFICANTLY. Two people from home using mobile internet is b impossible. Phone signal shows full bars of 4G yet at times won't load internet page" (2879, Menindee region)*
- *"The mobile phone call coverage in our area has continued to decline over the past few months (since December). We have a mobile booster for phone calls, in the house, however we are back to the original spots where we can get service. It's frustrating and getting worse. I don't understand how 5G service is going to improve things when they can't even provide decent 3G coverage." (2810 Grenfell region)*
- *"The introduction of 4G has led to a sharp deterioration of service for both calls and data. Newer phones cannot be locked onto 3G. When a weak 4Gg signal is available, the device switches to that signal even though it cannot support either data or voice and everything then drops out." (2339 Willow Tree region)*

RECOMMENDATION

4. The Australian Communications and Media Authority (ACMA) investigate and monitor widespread mobile outages in regional/remote Australia, and reliability of mobile infrastructure.

Technology transition (3G to 5G)

In addition to deterioration of existing telecommunications services, members have expressed significant concern about the planned transition from 3G to 5G. Of the 2021 NSW Farmers Telecommunications survey, 50% of respondents indicated that their mobile phone usually defaulted to 3G, while 31% defaulted to 4G.

Of the 866 respondents 71% indicated that they did not have confidence that 5G will deliver better connectivity than their current 3G or 4G service. NSW Farmers notes the benefits of the 5G network to improve performance and increase quality for the *Internet of Things*. However, we are seriously concerned that these benefits will accrue for high population density and not in regional areas where lower user numbers and a greater dispersed population will require a significant investment in infrastructure – that may not be commercially viable for private operators.

Many survey respondents provided additional comment regarding their concern about the transition when they already struggle to receive an adequate service:

- *“I’m very concerned that Telstra is concentrating on delivering 5G to cities and big regions but cutting off 3G soon and expecting 4G will cover when it doesn’t now. Our mobile coverage declines every time they introduce a new bandwidth and remove the old service. I can’t drive to my nearest town with decent mobile coverage. It works about 35 to 40 percent of the journey, and that’s only with one or two bars at best.” (2669, Tullibigeal region)*
- *“Every time we move up from the previous technology e.g. cdma-next G. 3G-4G the signal gets less and coverage is less.” (2380, Gunnedah region)*
- *“I think that there needs to be significant investment to really amp up CONSISTENT 4G coverage of at least 3 bars of service as a minimum standard across most rural areas, and to nail down that technology requirement before they look to change over to 5G. The footprint of 4G currently is not great unless you are right near the tower, if you are on the fringes like we are the service is patchy and inconsistent, and doesn't make it conducive to expanding our tech on farm. If the government wants to see more dynamic and tech driven agriculture, they need to start investing in better and more consistent coverage for their mobile services (including mobile internet) to enable this to happen.” (2700, Narrandera region)*

RECOMMENDATIONS

5. That the transition from 3G to 4G and 5G in regional, rural, and remote areas does not reduce access or reduce the quality and certainty of telecommunications in these areas.
6. A ‘measurement of program outcomes’ (impact and value) is included as a requirement in all current and future government programs.

Internet Service

Access to quality, reliable and affordable telecommunications underpins effective and efficient farm business operation. However, despite continued efforts to improve regional telecommunications, in many areas quality and reliability is deteriorating whilst cost is increasing.

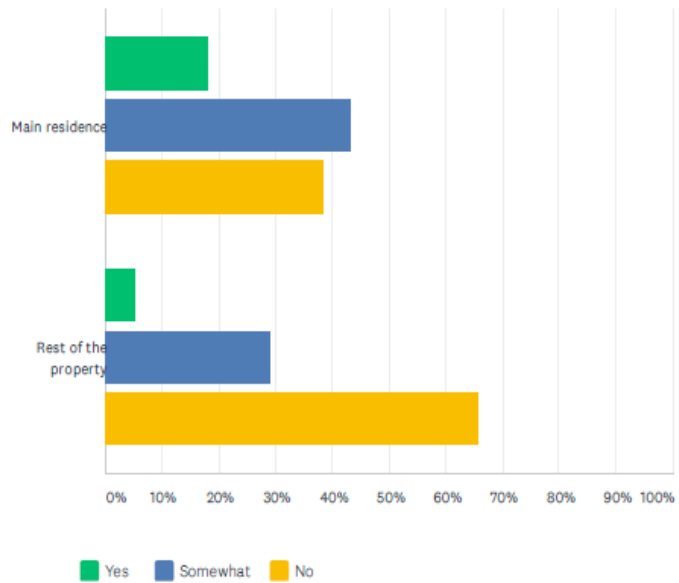
Quality, reliability and coverage

Challenges for internet reliability. With 29% indicating dissatisfaction and 25% very dissatisfied the reasons related to internet quality, reliability and speed in a variety of locations: in the home, across the farm property, and when using mobile internet. Home internet performed much better than mobile internet and access across the farm property; however, in terms of being a tool to support and expand on-farm productivity, there needs to be a greater opportunity for innovation in technology provision.

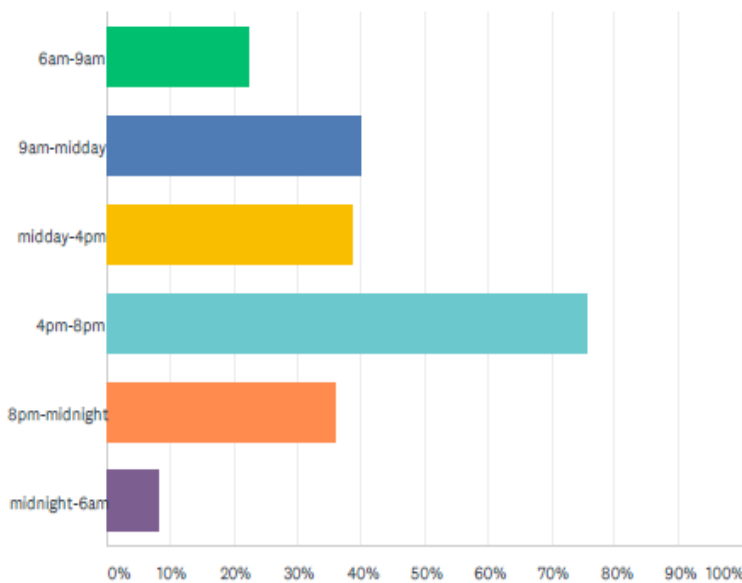
Quality	Poor	←————→			V.Good
	1	2	3	4	5
Internet in your home	23%	23%	30.5%	19%	5%
Internet access on your farm property (outside home)	56%	22%	13%	4%	1%
Mobile internet access	47%	28%	17.5%	5%	2%
Reliability	Poor	←————→			V.Good
	1	2	3	4	5
Internet in your home	27%	25%	25%	19%	5%
Internet access on your farm property (outside home)	60%	24%	11%	3%	1.5%
Mobile internet access	50%	29%	15%	4%	2%
Speed	Poor	←————→			V.Good
	1	2	3	4	5
Internet in your home	37%	25%	24%	12%	2%
Internet access on your farm property (outside home)	63%	22%	10%	4%	1%
Mobile internet access	54%	26%	15%	4%	1.5%

To understand the relationship between technology and user experience, respondents were asked to identify how they connected to the internet – 40% by NBN SkyMuster satellite; 27% by mobile broadband; 11% by NBN Fixed wireless; 6% by ADSL/ADSL2+ Broadband, and 3% by NBN fixed line.

Despite this variety of technology, it is significant that many respondents to the 2012 Telecommunications survey indicated that their internet does not perform as they expected at the time of purchase. Against assessment of speed and reliability, 38.5% indicated that the service has not delivered against their point of sale expectations in the main residence, and 65.6% indicated the level of service across their property was below stated expectations.



The challenges for rural and remote users is that while a variety of technology is used to connect to the internet in the home, the options for expanding the coverage across the property appear to be limited. When connecting to the internet outside the main residence 70% used mobile data. This then dropped to 6.4% using extension (WiFi or radio link) from the main residence connection; 2.5% accessed satellite, and 18.5% had no connection. In the above graph green indicates ongoing access; blue indicates intermittent or marginal coverage, and yellow represents loss of access.



A further frustration for regional internet users is the variability in access quality by time of day. The experience of users shows the impact of peak demand. In some cases, the connection is unusable during particular periods such as 4-8pm.

Additionally 65% of Respondents indicated a slight to significant decline in the quality of their internet over the last 12 months.

RECOMMENDATIONS:

7. *The Universal Services Guarantee ensures access to broadband internet services in regional, rural and remote Australia that is fit for purpose and of good quality, reliability and affordability.*
8. *The ACCC and Mobile Network Operators continue to work together and provide access to independent, accurate mobile coverage mapping as this will assist consumers to make informed investment decisions and provide industry and government with the ability to identify regional telecommunications investment across the coverage map.*

Landline service

Just under 77% of survey respondents indicated that they still have a landline or fixed line service. Additionally, 18% indicated that the quality of the calls has declined a small amount and 25.5% indicated a significant decline in quality over the last 5 years. Respondents indicated the importance of retaining this service in case of emergency.

However, with only 59% still connected through a fixed copper line, with increasing connections through VoIP, the risk of denial of service due to technology outages is a real possibility. There is significant concern for a decline in quality and reliability of landline services, with frequent lengthy outages lasting days and weeks, crackling, and sensitivities to weather such as rain.

For a number of remote users the landline is the only telecommunications service that they can access, or feel that they can rely upon. Many commented that this was the last service to stop working during severe bushfires, and is the service that continues to work during blackouts – unless the connection is digital. It is critical that landline connections remain a focus under the Universal Service Guarantee - and beyond - to ensure that this service continues to be available.

The below comments illustrate varying concerns for regional, rural and remote mobile, internet and landline telecommunications:

- *“Landline is slowly being neglected to extent may lose it. But we do not have mobile coverage.” (2400m Moree region)*
- *“Mobile service is so patchy on my property that if I carry my phone switched on the battery goes flat within two hours from constantly searching for a signal. I could put a booster in the ute, but most of my time is on a bike, horse or tractor.” (2652 Tarcutta region)*
- *“Our mobile tower ‘Mt Shannon’ cannot handle the load of the surrounding properties and businesses let alone all the tourists that draw off it as well. On certain days it’s almost impossible to connect to the internet to conduct normal business!” 2880 Broken Hill region)*
- *“Lack of maintenance on landline services, every time it rains our landline goes out. Last fault complaint took over 1 month to fix. The lines and exchange need servicing.” 2405, Garah region)*
- *“Continual roar/humming in landline, making it nearly impossible to hear. Takes an age to get through to report the fault but have reported on many occasions, but fixed for short time then happens again. Would get rid of landline if mobile coverage within home was more reliable.” (2701, Coolamon region)*
- *“I am still amazed major roads don't have continuous coverage. This is a safety issue. Recently at night I (a woman travelling alone) stopped to help an elderly man who had a flat tyre. This was 5 minutes from a town with 10,000 people. He tried to ring his son to come and help but there was no coverage! When our electricity lines need maintenance Essential Energy give us notice. When work is carried out on mobile towers (I assume this happens!), service is cut off. Business more or less stops right then. We have kept our*

landline purely and simply as a back up to our unreliable mobile and internet service.” (2379, Mullaley region)

- *“Total lack of mobile service in my area makes it essential that we have a reliable landline service. To make a call in the event that the landline goes out I have to travel 2 km away from the house or up the top of a hill 1 km away to make a call on the mobile and then that service is not good. In an emergency with no landline, things are not going to be good, I cannot call out and no one can contact me. In recent years, our landline can go out at least 5-6 times a year and when the power goes out as well, it is difficult. Unless modern technology can be available, of reliable quality and constant I would rather contend with the old landline.” 2580, Goulburn region)*
- *“Sky muster, mobile and landline are all unreliable at times for us. Sometimes we do not have enough internet to even load a webpage.” 2648, Wentworth region)*

RECOMMENDATION

9. *That the development of the Universal Services Guarantee to include broadband and mobile services, does not diminish access to, and ongoing commitment by Telstra to provide adequate funding for fixed voice and copper continuity.*

Reliability

The inadequacy of regional, rural, and remote telecommunications services has a number of impacts and implications. In an attempt to access or improve service, many survey respondents purchased additional technology such as boosters and external aerials, while others are forced to drive across the farm or even into town to access service.

The top five challenges experienced with mobile service related to poor coverage:

- 73% reported a loss of signal away from residential buildings;
- 72% reported a lack of continuous access during voice calls/service drops out;
- 55% reported a lack of internet access;
- 52% reported unreliable quality of connection e.g. distorted voice; and
- 51% reported high cost compared to access and reliability.

To address these challenges, regional residents have tried a number of techniques with mixed success. Some follow up with their provider but find it difficult to identify what is wrong with their service or how to improve it; others employ technical consultants or consider investing in their own towers at substantial personal cost; and others invest in technologies such as boosters and external aerials. Concerning, it is regularly reported that farmers travel to a certain point on their farm where service is most reliable, such as on top of a hill or silo, some climb onto the roof, and others travel into town just to access mobile or internet services.

While 62% of the 2021 telecommunications survey respondents have invested in technology to enhance their signal, of the 38% who have not, only 3% did not consider their signal needed enhancing. It is interesting to note that 24% were unaware of available booster technology; 18% did not think it was worth the cost; and 11% had tried the technology and found no improvement.

Critical service access

The impacts of poor access to quality, reliable and affordable telecommunications services are far-reaching; impacting the farm business and productivity, creating safety concerns, impeding education and social interactions, and inhibiting regional liveability.

Other impacts include inconveniences and 'work-arounds' such as those mentioned above, including driving kilometres to use a mobile phone or climbing a silo. A common frustration with poor coverage, in addition to the issue of an unreliable service, dropouts and distorted voice, is the fact that the mobile phone is constantly searching for coverage, which drains the battery very quickly. For farmers working out in the paddock for a substantial part of the day, this causes further inconvenience and isolation. Even if they can access a service in a particular spot, they may be unable to make or receive a call due to a flat battery.

Additional farm business and personal administrative issues include the increasing digitalisation of government and other services, and the challenges of two-step verification. Government and private services are encouraging, and in some cases require, the use of an online service such as applications

for disaster assistance, firearms applications, licence renewals, banking and bill paying. While the importance of two- step verification cannot be understated, a verification code sent via SMS with a time limit before expiry can often not be actioned where continuity of signal is challenging. NSW Farmers 2021 Telecommunications survey found that there is significant concern in rural and remote areas regarding the transition away from 'shop front' services to online due to the quality of their internet or mobile access.

- *"We tried to raise an eNVD to load cattle for sale- the internet connection wasn't good enough to hold the connection and we were unable to complete the Declaration and the cattle didn't leave, resulting in cost to me, the truck driver, and the agents. This happens too often when banking, transfer documents and so on." (2350, Armidale region)*
- *"Often need text messages to confirm identity for online operations or transactions. These don't always come through on text via wifi. Mobile towers can't cope with the load. Satellite is our only internet option. Regular drop-outs and poor quality for conferencing limits our ability to run business from farm." (2329, Merriwa region)*
- *"Business contact us on our mobiles and leave messages there. We don't have any service until we leave the property so have missed calls such as bank and solicitors as we are unable to convince people we have no service." (2350, Armidale region)*
- *"We would love to use online streaming at our ram sale but the internet connection is not strong enough to make this work." (2835, Cobar region)*
- *"At times internet is too slow to download emails and even to pay bills." (2590, Cootamundra region)*

RECOMMENDATIONS:

10. *Telecommunications is legislated as an essential service in all states and territories, and that providers be required to ensure service prioritisation to meet this definition and essential user status prioritised in areas at significant risk of natural disaster events.*
11. *Government agencies retain alternatives to online services such as forms and applications until adequate and reliable telecommunications services are available to people living in rural, regional and remote areas, including recognition of the challenges of those with special needs.*

Farm Business Productivity

Productivity gains for the agriculture sector will require the opportunity to increase uptake of technology-enabled practices. When asked to consider significant barriers to the expansion of on-farm technology, 71% of respondents to the 2021 Telecommunications survey indicated that their current internet service limits their ability to adopt or add-on additional technologies. Other considerations identified included:

- 27% needed technical support
- 26% were unsure of the technology available
- 21% considered it too expensive or did not have access to the new technology
- 8% were uncertain about data privacy

The Internet of Things and agricultural technology provide an array of opportunities to collect and analyse data to improve business productivity. If Australian agriculture is to continue providing fresh food and fibre for the nation to enjoy, and grow to \$100 billion by 2030, it is critical that farmers can access this technology to capitalise on productivity improvements.

The below member examples provide further insight into the impacts and constraints of insufficient telecommunications services on farm businesses:

- *“We are running significant businesses with a technological handbrake. The sheer lack of investment in rural internet service is blatant to the extreme. We don’t regard our area as outback - being 40 km from regional centres but our inability to conduct the basic business transactions can be overwhelming at times” (2642, Yerong Creek region)*
- *“Service outages and lack of coverage increase our labour costs and efficiencies and also at times present human and animal welfare risks. We can’t adopt ferti-gation technologies or use tank monitors due to lack of coverage and lack of reliable service. For an employer, poor coverage makes it impossible to contact employees on our properties. We can’t make and receive calls during business hours while outworking. No subsidies available to try and improve coverage.” (2729, Adelong region)*
- *“There are so many apps and programs that can streamline the running of our grain business, but they all require reliable phone and internet connections. It is extremely frustrating that we don’t have reliable mobile service despite the spending we have done on aerials and boosters.” (2396, Baradine region)*
- *“If we want to use cameras on troughs we have to put in WIFI repeaters to access as mobile service is not good enough and too unreliable which locks us out of most technology or becomes very expensive to use satellite”*
- *“The consistent lack of internet and phone service is really impacting the efficiency and effectiveness of our farm business, office jobs that should take 1hr can take 2 hrs. Issues regarding workplace safety in paddocks as employees uncontactable due to nil phone service which is a major concern. If we do have phone service dropouts always happen. We are paying money for a service that doesn’t exist or is poor at best... to adopt new tech in paddocks re variable rate in broad acre cropping often requires internet use in paddocks with iPads etc. which is just not there..” (2666, Temora region)*
- *“Being forced to change how we deal with people and get the same old “farmers don’t adopt technology” however it is hard to adopt when you can’t access (i.e. no signal for real time data). Signal at house is great (fixed wireless NBN) however we own/lease 15 properties and most of the coverage over them is useless technology that relies on good internet a no goer... or even doing the banking. Also - just upgraded my home internet plan (I hadn’t changed it in over 4 years). For something that should have been simple (you need to contact Telstra – can’t do it online) it was a nightmare. It took over 1 month, countless online chats, phone calls, complaint lodgement, store visits etc. to eventually (I think) get the plan changed.” (2830, Dubbo region)*

Social Impacts

In addition to business impacts, poor connectivity has a number of impacts on regional liveability, including social and family life, attraction and retention of rural workers, education, and safety.

The COVID-19 pandemic highlighted the extent to which rural, regional and remote residents are challenged; and some significantly disadvantaged. In many areas, where doctors and specialists are scarce, telehealth became critical – and while supported should not be seen going forward as an alternate to local service delivery. The inadequacy of mobile and internet services were highlighted as primary, secondary and tertiary students learnt from home. Low data limits for internet services

The inability to rely on mobile and internet services is a significant deterrent to attracting and retaining a well-skilled rural workforce. Farmers and regional communities already face significant barriers to attracting workers due to reduced availability of services and lower salaries. The inability to work from home, engage in education, or stay in touch with families is a real disincentive for employees with families. To be effective, regionalisation strategies must be underpinned by strong strategies to improve connectivity and future-proof infrastructure to meet the jobs growth and business development targets that underpin these regionalisation strategies.

Additionally, it is critical that certainty of telecommunications along the length of regional roads and transport corridors, and that critical emergency service communication networks strengthened. The following identify significant concerns:

- *“Two factor authentication with ATO, accountancy, banking and STP reporting is difficult with very poor mobile reception in the house (running backwards and forwards outside to try and get text code). Unable to support daughter at university (but with classes online) due to poor internet speed. Landline is predominantly used by scammers but reluctant to end connection due to poor mobile reception.” (2582, Murrumbateman region) (2877, Condobolin region)*
- *“My children's schooling is significantly affected due to the lack of a reliable connection, i am extremely worried about what this may mean for our family as a whole, if things don't improve i may have to leave our farm and move to town just so my kids can get an education. It's an absolute disgrace.” (2877, Condobolin region)*
- *“We have a circular problem of capacity and regional development - we cannot attract workforce because of connectivity, and we are told that demand does not warrant increased capacity, but we can't attract the people to rural and remote areas, or little communities seeking to sustain themselves, because we don't have the connectivity they require.” (2329, Merriwa region)*

Complaint handling

A prominent theme of NSW Farmers' 2021 Telecommunications survey were concerns regarding customer service including difficulty identifying problems, lack of understanding and continuity of staff when trying to fix a recurring problem, difficulty and delays in resolving or repairing the problem, and overall, complaint fatigue. It is worth noting that respondents reported a 25% satisfaction rate when asked to consider the level of understanding by their service provider when they raised local

connectivity and access challenges. This lack of satisfaction is informed by 29% being unsatisfied with the responsiveness by their provider when connectivity issues arose; and 18% being very unsatisfied.

A further frustration is a sense of being unsupported when technology changes. As identified in a prior section, many business transactions are occurring on-line. In an environment where the connectivity challenges are significant, 61.5% of survey respondents indicated that assistance to resolve telecommunications issues by the provider was delivered over the phone, with only 18% accessing in-person assistance through a shop-front.

In itself this is not necessarily a significant issue, but there is increasing concern that when seeking advice and support from the service provider, 19% reported that the assistance/advice was inaccurate or very inaccurate.

- *“I need to disconnect my landline as it hasn’t worked since April 2020. Still paying monthly fee because it cannot be cancelled via online communications and I have never been able to actually talk to a person. Disgusted that’s it’s easier for me to concede to paying \$60 a month than actually deal with my service provider! Goes to show.” (2880, Broken Hill)*
- *“Telstra is my service provider - I am feeling I may have to go to satellite, and Telstra for internet to cover my needs, which is double cost. There is no capacity to quantify the cost of time lost when online capacity is not sufficient to conduct business, or when we are seeking advice, often travelling significant distances to do that, or spending hours on phone being transferred from departments, we are expected to wear that cost, time is money. Information about what is best varies location, and geographic position, phone advice from maps is not sufficient, on ground technical advice is required, telecoms is now an essential service and we are seeing diminishing inclusion.” (2329, Merriwa region)*
- *“We have plans to expand our farm for on farm stays and to set up a breeding program. We went through three providers and months of headaches just to get what we now have, and have now spent thousands on booster equipment. Call centres do not understand rural/remote issues, nor do they take the time to listen to what you are saying. To them it is all about securing a sale. We were told (via a major provider) we could get satellite connection so went through the process, then told no sorry, we could only get ADSL and sent all the equipment, then told actually sorry you can’t get internet at all. Then we have been billed from this major supplier without even having a connection, then you have to fight to have it wiped. Our current issue is that we have been billed twice and have incurred two late fees, every time we contact them, we spend a minimum of an hour on the phone, they say it is sorted, only to be billed again the next cycle. We don’t even have a service with them! We eventually connected with Activ8me and that has been a major headache. Not listened to at the call centre, so what was originally connected did not work properly and the WiFi device is cheap and way too small for our house. On top of that, the installer would not install where we wanted it placed, so we had very patchy internet in one room only! We have had to contact a local aerial contractor and spent over \$3k on getting set up to what we consider a very basic supply. We are only 25ks out of Bathurst, not in the middle of nowhere! I really feel for others further out struggling to get basic connections.” (2795, Bathurst region)*

It is becoming increasingly clear that challenging access, a perceived deterioration in quality of service, and an increasing gap in understanding of the 'technology' between the service provider and the end user is leading to frustration and heightened levels of dis-satisfaction.

Telecommunications and digital delivery have become essential services. End user trust and confidence is diminishing. It is critical that alongside improved understanding and responsiveness of providers, regional consumers are enabled to resolve connectivity issues, build their digital literacy to inform purchasing decisions, and access agnostic information about the most appropriate telecommunication products for their location and business needs.

NSW Farmers' recognises the pace at which technology is evolving. However, it is important to note that communications consumers should not be expected to have detailed knowledge of the specifics of individual technology options. This must be the responsibility of the service providers. This expectation must extend to the requirement to provide full and accurate information on the capability of that technology use, appropriate to the setting in which it is applied. There must be an expectation of truthful and fully informed product disclosure – delivered in plain English. Technology purchases, be it for basic connectivity or for on-farm productivity improvements must be fit for purpose and underpinned by accurate analysis of the conditions that will affect performance.

The Regional Tech Hub plays an important role providing an additional consumer service. However, funding is not assured over the long-term and additional funding must be made to ensure this important resource is maintained. However, the introduction of this service must not abrogate the responsibility of service providers to meet existing customer protection enshrined in law.

RECOMMENDATION

- 12. Prioritise strategy and associated funding to support consumers access product agnostic digital literacy assistance enabling them to make informed decisions about telecommunications purchases to fit their needs.*

Affordability

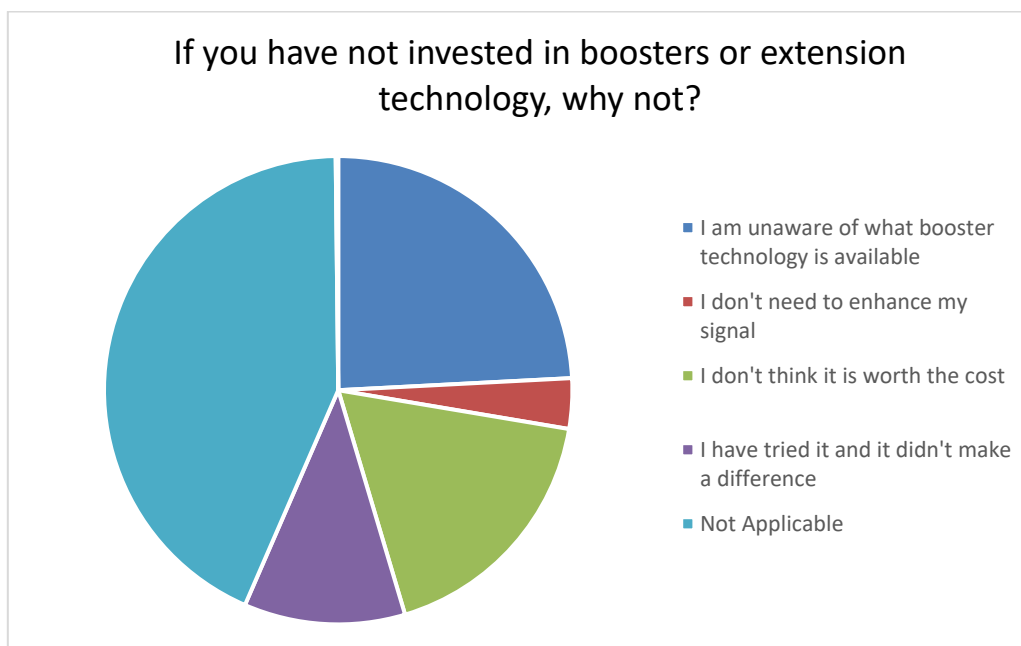
The difference in cost of telecommunications for rural residents and those in metropolitan areas further illustrates the city-country digital divide. In most cases, in order to have the capability to access a basic mobile or internet service, the cost will be higher than for people living in urban centres. However, due to the uncertainty of coverage most farmers then also need to invest in additional technology to access or enhance signal for certainty of access– with mixed results.

In NSW Farmers’ recent survey, 35% of respondents indicated that their average estimated cost for mobile service was \$100-\$199 per month. While 30% paid less than \$99 per month, alarmingly, 33% pay more than \$200 per month to access mobile service, as shown below.

Similarly, almost 40% of respondents pay \$100-\$199 each month for their internet service. Whilst 44% pay under \$99, 16% pay more than \$200 per month to access an internet service, as shown below.

In addition to these higher access costs, 62% of NSW Farmers members have invested in technology, - boosters and external aerials - to enhance their signal. As the network, devices and boosters have changed over time; many members estimate they have spent thousands of dollars trying to gain quality, reliable access to telecommunications services.

Of those that chose not to invest in this technology, 24% indicated that they were unaware of the availability of booster technology available; 11% had tried it, but did not show improvements; while 18% did not think it was worth the added cost, based on the uncertainty of the potential benefit.



For those who had invested in booster and/or extension technology, 40.5% had purchased 3G boosters; 58% had invested in 4G boosters, while 74% had fitted external aerials.

Over the last two years, survey respondents indicated that they had invested between \$90 and \$15,000 to improve the quality of their service (mobile and/or data) through technology boosting products. Some respondents noted that they had not spent anything, or had purchased technology more than two years ago, with the average amount around \$2,280.

In addition to the inequitable cost associated with regional, rural and remote telecommunications services, the service the consumer receives is likely limited, and in many cases lower quality and less reliable than an urban service. NSW Farmers' survey indicates that our members use a range of connections to access internet, and this varies between the connection to the main residence and access to internet across the rest of the property.

The type of internet connection plays a significant role in the monthly cost as well as data limitations and speed. At the main residence, connections vary but the dominant is NBN SkyMuster satellite used by 40% of respondents. Outside the main residence, 18% of respondents have no connection and 70% rely on mobile data. This has significant implications for business productivity, inhibiting the ability to utilise technological advancements such as online auctions due to slow internet speeds and limited data, and inability to take up agricultural technology such as the Internet of Things due to unavailable or unreliable internet connection across the property. This further increases costs in terms of lost productivity and efficiency.

Additionally, in NSW Farmers' 2021 telecommunications survey, many members highlighted the time they wasted travelling to a location to get service – whether it be a few kilometres on their farm or down the road, or even into town. Not only is time lost, business opportunities can be lost and simple tasks such as online banking or using government services with two factor verification can become onerous due to the requirement to travel in order to access the service.

It is neither equitable nor reasonable to expect country consumers to pay extra for additional technology to enable access to a basic service, particularly when this service may not be of acceptable speed, quality, or reliability. In the current context of constant connectivity, it is unworkable for families and businesses excluded from these basic services necessary for everyday life in the modern world. The current frustrations are clear:

- *“It would be nice just to have a basic service that is not costing around \$500 a month and does not work most of the time” (2729, Adelong region)*
- *“Allow sky muster users to access unlimited data per month at the same cost as city residents. The costs are astronomical for higher amounts of data” 2580, Goulburn region)*
- *“We have written to the CEOs of Telstra on more than one occasion, have both conferred with as well as written to all levels of Government representatives, have been provided with different sim cards for different providers by the office of our Federal Member and ALL FAILED!! As Chairman for NSW Farmers Griffith Branch, I speak for not only myself but my Members, when I say that the Telecommunications Service in our area is unreliable, inefficient and blatantly dangerous. It is putting Rural Operators and their families lives at risk and all efforts to have this rectified to date, have been to no avail - Members continue*

to invest more and more finances into acquiring better coverage but where does this investment stop?” 2680, Griffith region)

- *“We utilize satellite internet. Although this gives us generally reliable coverage, it is significantly more expensive than metropolitan options for people with businesses. The data charges and limits are almost outdated in metropolitan businesses, but capped usage, and shaped internet speeds when data limits are reached, is still a constant juggle for us. As technology becomes more reliant on data and cloud storage, this will blow out costs for these services further. During COVID-19, when we had 3 teenagers home schooling, the cost of internet was \$400 per month due to the data usage, and the fact that we couldn't risk running out of data for our business. The satellite plans do not allow purchasing of additional data except in very small, very expensive blocks, and the number of these are limited per month. When we rely on cloud based accounting, online banking, and online grain trading and production platforms, we can't risk running out of data. Therefore we pay for a larger plan than we usually need, as you cannot change plans mid-month. Our business would grind to a functional halt if we couldn't buy extra data if we needed it. SkyMuster plus has improved this, but it is still very expensive. The poor mobile coverage is also a huge safety concern. Due to our remote location, mobile coverage is vital to call emergency services. As farming is an industry prone to workplace accidents, good mobile coverage is literally lifesaving in some situations. Technology and developments in machinery mean that many farmers work solo. The ability to call for help if accidents occur is vital.” (2828, Gulargambone region)*

RECOMMENDATIONS

13. *Ensure that access to educational resources, services and information for primary, secondary and tertiary students over nbn SkyMuster satellite and fixed wireless is reliable and cost-effective for all, now and into the future.*
14. *Work, underpinned by ongoing independent analysis, undertaken to improve price parity for access to telecommunications services between rural, regional and remote; and metropolitan areas; in particular, access to quality, reliable internet services with adequate speeds and data availability.*
15. *Introduce rebates for boosters and external aerials to reduce telecommunications disadvantage in rural, regional and remote areas and improve safety outcomes.*

Infrastructure

NSW Farmers members rely on a variety of different telecommunications connections to access mobile, internet and landline services.

These include 3G and 4G mobile networks, commonly enhanced by boosters and external aerials; NBN fixed line, NBN wireless, NBN SkyMuster satellite, ADSL/ADSL2+ broadband, and mobile broadband; and copper, wireless link and High Capacity Radio Concentrator landline services.

Our members have reported deteriorating service across the spectrum of connections, with 40% reporting a significant decline in mobile network coverage over the past 12 months, and 35% reporting a significant decline in internet connectivity over the same period. Over the past five years, as reported in the 2021 NSW Farmers Telecommunications survey, 18.5% of respondents experienced a small decline in their fixed line phone service, while 25.5% reported a significant decline. It is worth noting that 27.5% no longer have access to a fixed phone line.

This may be the result of an inability of infrastructure to keep pace with demand as the need for quality and reliable telecommunications has skyrocketed over the past few years, particularly since the increased reliance on data services in response to the COVID-19 pandemic.

Other causes could include increased pressure on infrastructure, and ageing or inadequate infrastructure to meet the needs of rural consumers. Increased pressure can be a particular concern, and difficult to predict, in areas close to major roads and highways, as tourists and travellers frequent these areas and increase the load on that tower. In the case of fixed line services, as subscriptions have declined and the service continues to age, it appears that maintenance needs to be increased to prevent lengthy periods without connection.

Members have also highlighted a perceived correlation between upgrades and tower changes that have appeared to result in poorer mobile reception.

Whatever the cause, it is clear that current telecommunications infrastructure cannot provide the level of connectivity needed in regional, rural and remote Australia. With every government agency pushing digital usage, if there is not adequate infrastructure to ensure access in regional areas, consumers will be disadvantaged. In this digital world where access to mobile and internet connectivity is expected, it is not acceptable to leave people without access to these services.

Band-Aid solutions such as boosters and small cell towers have been providing a level of temporary relief or local solutions, but it has become apparent that a lasting solution is required. It is noted that the recent focus of mobile black spot funding appears to have shifted location specific solutions, but unless a network of small cells are erected, they will not be able to address the current mobile service issues in a widespread, sustainable way.

However, NSW Farmers notes the pilot service for a roaming trial in regional Queensland and look forward to the trial outcomes. It is extremely challenging for regional, rural and remote residents that Australia has no policy to support improved strategies for shared infrastructure, let alone active support

for roaming in regional areas. Residents watch the building of telecommunications infrastructure and wonder why there is no improved service. NSW Farmers understands that this is because these are service provider specific. It is unacceptable that in regional areas where, due to distance and proportionally lower customer numbers, there is no strategy for provider agnostic infrastructure – or as a minimum a requirement for adequate shared access to the infrastructure.

Regional, rural and remote Australia needs adequate, fit for purpose infrastructure that will increase capacity and deliver expectations around mobile and data usage. The prioritisation should not be against the number of users in an area, but on the expectation and basic need to access telecommunications services. It is critical that telecommunications infrastructure priorities address current shortfalls and improvements provide long term, lasting benefits. The following survey respondent comments highlight user frustrations:

- *“Telstra/NBN are not increasing bandwidth at the pace that it is being utilised e.g. evenings, weekends & school holidays” (2484, Murwillumbah region)*
- *“We need better mobile towers in country areas not just small ones that only service a small radius” (2586, Boorowa region)*

RECOMMENDATIONS

16. *Maximise infrastructure efficiency by increasing opportunities for shared access.*
17. *Introduce roaming in regional, rural and remotes areas.*
18. *Implement a long-term strategy to provide connectivity between small cells in remote areas where small cell infrastructures is the current preferred infrastructure option.*

Conclusion

There are many ongoing barriers to accessing quality, reliable and affordable telecommunications services across rural, regional and remote Australia.

These affect mobile, internet and landline services, leaving no simple solution.

Many farmers and rural communities are frustrated with inadequate and diminishing access to these services, and are concerned about facing further exclusion and disadvantage in an increasingly digitised world.

The COVID-19 pandemic has highlighted both existing telecommunications issues and the modern expectation and reliance on access to these services for everything from filling out a government form to online banking.

In addition, poor telecommunications cause lost productivity and inconvenience, create safety concerns, and negatively impact farming families with students trying to study from home.

It has become apparent that existing infrastructure is insufficient for the needs of farming businesses and must be upgraded to provide fit for purpose access to these basic services. This could be achieved through a number of ways, but must provide lasting solutions to ensure the provision of certain and reliable telecommunications in the long term.

Improved access to quality, reliable and affordable telecommunications services are not only critical for farming families, but to underpin regionalisation strategies and help communities thrive.

It is time for greater investment in long term telecommunications solutions to reduce the deepening digital divide between urban and regional areas, and to address the inequity of services, cost, quality and volume of data available.

This will place rural businesses on a more even footing and enable them to remain competitive and sustainable in a modern, digital world.

It will also encourage increased productivity and profitability through the ability to take up agricultural technologies such as the Internet of Things. This will in turn aid the growth of Australian agriculture to help reach the goal of \$100 billion by 2030.

It is imperative that as Australia's reliance on technology continues to grow, our farming and regional businesses are not left behind.