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QUT Digital Media Research Centre and JCU The Cairns Institute joint submission to the Regional Telecommunications Review 2021

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We are researchers in QUT's Digital Media Research Centre and JCU's The Cairns Institute.

The DMRC is a global leader in digital humanities and social science research with a focus on communication, media, and the law. Our [Digital Inclusion and Participation program](#) actively works with government, industry, non-profit and for-purpose organisations to undertake a range of research on digital inclusion throughout Australia.

The Cairns Institute's [research](#) addresses critical points of social and environmental transformation in the tropics. We aim to be visionary, multidisciplinary, and driven by principles of social justice and reciprocity. One of our key goals is to promote sustainable development in Northern Australia and the global tropics through long-term partnerships with communities, institutions and governments throughout the tropics.

For more information about this submission, contact Dr Amber Marshall:



Executive summary

We welcome the opportunity to contribute to the Regional Telecommunications Review. For the past 5 years, the DMRC and JCU have been collaboratively undertaking research on digital connectivity and digital inclusion in regional Australia generally, and in Northern Australia (particularly Queensland) more specifically. Our research aims to give a voice to regional consumers, and develop workable solutions to meet their needs.

To holistically address telecommunications shortfalls in regional Australia, we recommend, broadly:

- Strategies to improve the **capacity of people** in the regions to use existing communications infrastructure. These should include, for example, interventions to increase connectivity and improve digital literacy.
- Strategies to support families, businesses, and communities to **close last mile gaps** to accessing existing infrastructure and services, beyond current grants schemes.
- Strategies aimed at resolving **infrastructure deficits** in the regions. This will require deep collaboration between, and investment by, all levels of government and the telecommunications industry.

We expand on these recommendations and provide more specific suggestions throughout this submission and in our attached report, *Solutions for Improved Digital Connectivity in FNQ: Building community and disaster resilience in the Gulf Savannah*.¹

Service reliability

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

Regional communities, businesses, and families regularly experience service issues (unreliability, intermittent service, outages) with both mobile networks and internet connections. Mobile services often become overwhelmed at peak times.² Service outages and interruptions are common during natural disasters, which are more prevalent in Northern Australia.³ The inter-reliance of power and telecommunications infrastructure in remote areas, including dependence on generator power, also creates service reliability issues.⁴ Repairs take longer in rural and remote communities because workers and parts have to travel from other areas, meaning service outages

¹ Marshall, A., Tsakissiris, A., Dale, A.P., Williams, Z., Irvine, D., Ryan, G., Wilson, C-A., Hourigan, A., and Stephens, D. 2021. *Solutions for Improved Digital Connectivity in FNQ: Building community and disaster resilience in the Gulf Savannah*. Gulf Savannah NRM.

² Marshall et al. (fn 1) pp. 10, 12.

³ Marshall et al. (fn 1) pp. 9, 10, 13.

⁴ Marshall et al. (fn 1) pp. 4, 13.

last longer.⁵ Our research reveals that some communities have been left without service for weeks following outages.⁶

Outages limit the ability of communities and businesses to access and use digital technologies for work, education, and socialisation. For example, during an outage or when services are overwhelmed:

- Individuals may not be able to access resources for school or other education.
- Individuals living in remote areas may not be able to connect with family members or friends, and may experience social isolation.
- Individuals may not be able to access essential information before, during or after a disaster event.
- Individuals and businesses may not be able to use banking services.
- Small businesses may not be able to use EFTPOS, or allow customers to make bookings or order online.
- Workers may not be able to communicate with colleagues or connect to their head offices.

To deal with service reliability issues, many regional consumers 'layer up' on connections and devices, with the hope that at least one connection will work at any given time.⁷ This substantially increases the cost of connection. The lack of reliable service also hinders regional communities in their efforts to attract investment, population, visitors and workforces.⁸

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

Broadly, it is important to take a public good approach to telecommunications in the regions, and to prioritise the voices, experiences and concerns of consumers. More specifically, to improve service reliability, we recommend:

- Ensuring there are sufficient technical staff in regional communities to address system failures and reliability issues as they arise. This could be achieved by, for example, creating a 'Digital Ranger' program that funds the temporary or permanent placement of technicians in rural areas in existing social infrastructure organisations (e.g. councils, libraries, community organisations).⁹ Alternatively or additionally, the Regional Tech Hub could adopt a 'hub and spoke' model of delivery to provide technical support in the regions.¹⁰
- Developing region-specific disaster and emergency telecommunications solutions.

⁵ Marshall, A., Dale, A., Babacan, H., and Dezuanni, M. 2019. *Connectivity and Digital Inclusion in Far North Queensland's Agricultural Communities: Policy-Focused Report*. The Cairns Institute. p. 18. <https://www.cairnsinstitute.jcu.edu.au/connectivity-and-digital-inclusion/>.

⁶ Babacan, H., McHugh, J., Marshall, A., Gopalkrishnan, N., and Dale, A. 2021. *TCICA Region Telecommunications and Digital Connectivity Final Report*. TCICA. p. 46. <https://tcica.com.au/wp-content/uploads/2021/08/tcica-digital-connectivity-strategy.pdf>.

⁷ Marshall et al. (fn 5) p. 11.

⁸ Babacan et al. (fn 6) p. 2.

⁹ Marshall et al. (fn 1) p. 17.

¹⁰ Marshall et al. (fn 1) p. 17.

- Improving the affordability and availability of internet backup options, to neutralise the financial burden of 'layering up'.
- Incentivising telecommunications companies to operate under alternative business models that prioritise service reliability (particularly in geographically remote areas), rather than financial profits.

Network resilience could be improved through greater investment in backhaul infrastructure, including:

- Private network extension.
- Local mobile coverage expansion.
- Brokerage of last mile solutions.
- Macro mobile coverage expansion.
- NBN fixed service enablement.¹¹

Indigenous communities

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

Indigenous communities face specific and significant digital inclusion challenges.¹² Our research found that:

- Indigenous communities, particularly in remote areas, face additional, unique barriers to digital inclusion.
- People in Indigenous communities do not feel heard by telecommunications providers.
- Community members suggest that the Universal Service Guarantee does not seem to be met in many communities, and telecommunications services are not adequate for 21st century needs.
- Community leaders believe that unequal access to digital technologies has limited the progress on closing the gaps between Indigenous and non-Indigenous people.
- Digital inequality leads to poorer social and health outcomes in Indigenous communities.

Improving access and affordability of telecommunications services in remote Indigenous communities will require a diversified approach:

Infrastructure

- Investing in reliable infrastructure that can withstand severe weather events.
- Improving coordination between digital infrastructure and other infrastructure planning (e.g. power, roads and transport, disaster planning).

¹¹ Marshall et al. (fn 1) pp. 16, 18-22.

¹² Babacan et al. (fn 6).

- Improving mobile phone communications (e.g. geographic spread across towns and main routes, upgrading to 4G and 5G).
- Ensuring there are people with sufficient technical capability and expertise in the regions, to troubleshoot and address outages.

Affordability

- Moving the provision of digital connectivity services to Indigenous communities away from a market-based approach to a public good approach. This could be achieved by incentivising telecommunications companies to provide affordable, quality services in Indigenous communities, as this is currently not profitable for providers. The use of alternative providers (e.g. social enterprise-based providers) could also be explored.
- Improving understanding of the digital needs of Indigenous communities, to facilitate the development of tailored, affordable plans based on the size and scale of demand.
- Establishing free Wi-Fi hot spots in key areas and along key routes.
- Establishing a system of ‘digital champions’ to highlight the needs of, and advocate for, specific communities.

Digital skills

- Improving consumer awareness of, and knowledge about, digital communications systems and hardware (e.g. satellite, extenders, simple troubleshooting).
- Supporting consumers to develop skills for using different devices (e.g. phones, laptops, computers).
- Increasing awareness about where and how to access troubleshooting help.
- Increasing cyber-security awareness.

Other

- Developing indicators and benchmarks for minimum service guarantees that are more appropriate for Indigenous communities.¹³

Regional development

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

Investment in telecommunications infrastructure can and should work with existing programs and policies to encourage economic development in regional Australia. In particular, we recommend:

- Leveraging the Northern Australia agenda to improve telecommunications access in the least connected areas.

¹³ See Babacan et al. (fn 6) for further details.

- Strengthening and bolstering the National Recovery and Resilience Agency's support of investment and research into telecommunications.
- Collaborating with federal and state digital economy agencies.
- Brokering and incentivising deals between energy providers and telecommunications companies to make fibre available in more remote places.
- Brokering opportunities for fibre to be laid when other major infrastructure (e.g. roads, dams, ports) is built.

Maximising outcomes

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

Improving telecommunications in regional Australia requires place-based solutions that address the specific infrastructure, service provision, and educational needs of people and industries in different locations.¹⁴ For example, Indigenous communities have different telecommunications needs to people in grazing areas. Establishing the partnerships necessary to coordinate place-based approaches will require:

- Engaging key organisations in the relevant regions to lead region-wide efforts to improve digital connectivity.
- Engaging key federal and state agencies to progress place-based solutions through existing policy and funding frameworks (e.g. the National Disaster Recovery Fund).
- Establishing local working groups to cost and advocate for specific investments over the next five to ten years.
- Engaging technical experts and leaders from telecommunications companies to collaboratively design and implement place-based solutions.
- Developing new approaches to government funding that recognise and prioritise digital inclusion as a public good, rather than focusing on commercial return.¹⁵

These solutions require cooperation and coordination between different levels of government, industries, and regional communities, including:

- The development and active implementation of cohesive, long-term regional communications plans to improve digital and mobile access and services. These plans should reflect a shared vision of integrated regional development (transport, water and energy planning, supply chain development, etc.), informed by all levels of government, the private sector, regional communities, and the Traditional Owners/Custodians of the land.
- Strong, independent, third-party facilitation of regional communications planning, to ensure genuine consensus building and partnership development.
- Firm, bilateral cooperative arrangements between Commonwealth and state governments for regional communications planning and investment.

¹⁴ See, generally, Marshall et al. (fn 1).

¹⁵ Marshall et al. (fn 1) p. 22.

- Coordination beyond the planning process, and into the delivery, monitoring and evaluation stages of regional communications plans.

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

While we welcome the increased investment into regional telecommunications, our research suggests that new funding models are required to holistically address digital connectivity across regional Australia.¹⁶ Governments should work with telecommunications companies to identify issues and solutions at the regional level, rather than simply filling connectivity gaps at a local level.¹⁷

Investment programs should aim to:

- Improve the capacity of regional communities to use existing digital and mobile technologies more effectively.
- Support families, businesses, communities, and industries to close last mile gaps to accessing existing services and infrastructure.
- Assist regional communities to plan, advocate, and secure investment for the development and maintenance of digital and mobile service infrastructure.¹⁸

The success of investment programs should be measured using human rights and social inclusion indicators, rather than purely economic cost-benefit analyses.¹⁹

¹⁶ Marshall et al. (fn 1).

¹⁷ Marshall et al. (fn 1).

¹⁸ Marshall et al. (fn 1).

¹⁹ Babacan et al. (fn 6) p. 51.

Further reading

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