

April 2024



# MAPPING THE DIGITAL GAP

Measuring Digital Inclusion and Media Use in Remote Aboriginal and Torres Strait Islander Communities 2021-24



**Djarindjin and Lombadina, WA**  
2023 Community Update Report



## Acknowledgement of Country

We respectfully acknowledge the Bardi people, the traditional owners for Djarindjin and Lombadina, and pay our respect to their Ancestors and Elders, past and present. We also acknowledge the Traditional Custodians and their Ancestors of the lands and waters across Australia where we work, live and undertake our research.

## About the Mapping the Digital Gap Research Project

Mapping the Digital Gap is a 4-year research project working in partnership with local organisations in 12 remote First Nations communities, to generate a detailed account of digital inclusion and uses of digital services including news and media, track changes over time, and inform appropriate local strategies and services enabling informed decision making by remote Aboriginal and Torres Strait Islander people. It is a supplementary project to the Australian Digital Inclusion Index, coordinated within the RMIT University node of the Centre of Excellence for Automated Decision Making and Society in partnership with Telstra.

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We would like to thank the following key contributors to this research:

### Community Research Partner

Djarindjin Aboriginal Corporation  
[djarindjin.org.au](http://djarindjin.org.au)

### Community Co-Researchers

Audrey Shadforth  
Marlon Sampi

### Research Participants and Stakeholders:

Thank you to all the community residents and local agency staff who generously participated in the surveys and interviews, providing the personal experience to make this research meaningful. We conducted 69 surveys with First Nations community residents in 2023 (95 in 2022). During 2022 and 2023 research visits, we undertook 15 interviews with community leaders, residents and the following stakeholder agencies:

- + Djarindjin Aboriginal Corporation
- + Djarindjin Lombadina Health Clinic
- + Christ the King School
- + Dampier Peninsula Police
- + Dampier Peninsula Safe House
- + Djarindjin Store
- + Pilbara and Kimberley Aboriginal Media
- + Bardi Jawi Rangers

### Djarindjin / Lombadina research trips dates:

1–5 April 2023; 16–22 June 2022

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**Cover photo:** Aerial photo of Djarindjin and Lombadina communities



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Figure 1: Djarindjin community office

## 01. EXECUTIVE SUMMARY

This report outlines updated findings from our second research visit to Djarindjin and Lombadina; two discrete communities located adjacent to each other on the Dampier Peninsula in Western Australia’s Kimberley region, about 196 km north of the regional centre Broome (See community layout plans in Appendix 4). The traditional owners of Djarindjin are the Goolarrgoon people of the Bardi nation, with predominantly Bard people in Lombadina.

According to the 2021 Australian Bureau of Statistics (ABS) Census, the combined population of Djarindjin and Lombadina is 253 with 81.4% identifying as Aboriginal and/or Torres Strait Islander. According to the ABS (2021), 43% of residents speak an Aboriginal language at home, primarily Bardi (38%), Karajarri (2%) and Kriol (1.5%), with 53% speaking English only at home.

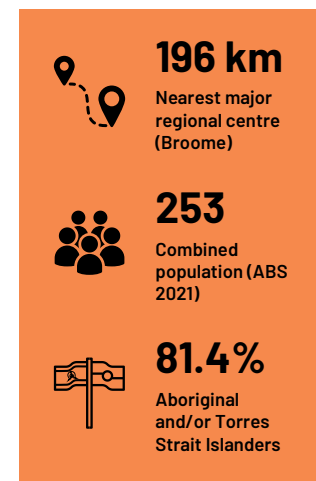
Our second research visit to Djarindjin and Lombadina was undertaken from 1 to 5 April 2023. The RMIT University team worked with community research partner Djarindjin Aboriginal Corporation (DAC) and co-researchers Audrey Shadforth and Marlon Sampi, with support from DAC CEO Nathan Mclvor and staff. The team had a very productive week undertaking 69 surveys with residents and conducting 9 interviews with agencies and community leaders. We thank all residents and agency staff who participated in the research and made us feel very welcome. There was a funeral in Lombadina community at the time of our visit so we did not do surveys or interviews within Lombadina, which we will address in 2024.

Building on the 2022 Djarindjin and Lombadina [Community Outcomes Report](#), this Update Report is intended to assist local and regional agencies, leaders and residents to better understand the barriers to digital inclusion, develop local strategies to address these barriers, and support planning and partnerships with government and industry stakeholders.

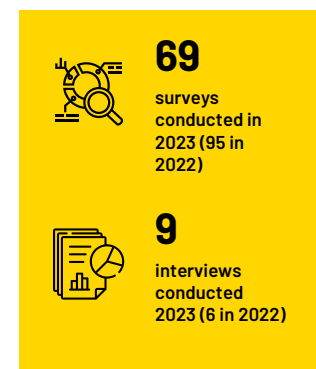
This report presents research findings to date, comparing survey results from 2022 to 2023, outlining changes in communications and media services and usage, and renewing the analysis section with 2023 findings and quotes. The proposed Digital Inclusion Plan has been updated based on community input and progress to date, as well as planned activities.

The report also presents 2023 Australian Digital Inclusion Index scores for Djarindjin and Lombadina relative to national averages and key findings from our first round of visits to 10 remote towns, communities and homelands in 2022.

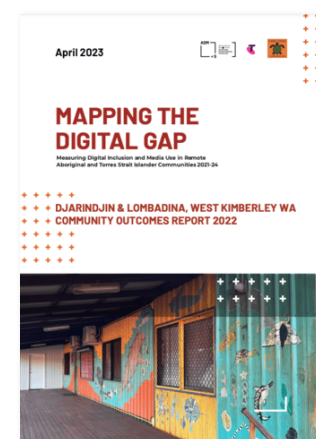
This report is part of our commitment to Indigenous data sovereignty, providing data and research findings to the participating communities to use for their own analysis, planning and advocacy. We will publish another update report following the final research visit in 2024.



- 196 km**  
Nearest major regional centre (Broome)
- 253**  
Combined population (ABS 2021)
- 81.4%**  
Aboriginal and/or Torres Strait Islanders



- 69**  
surveys conducted in 2023 (95 in 2022)
- 9**  
interviews conducted 2023 (6 in 2022)



## Djarindjin / Lombadina at a glance

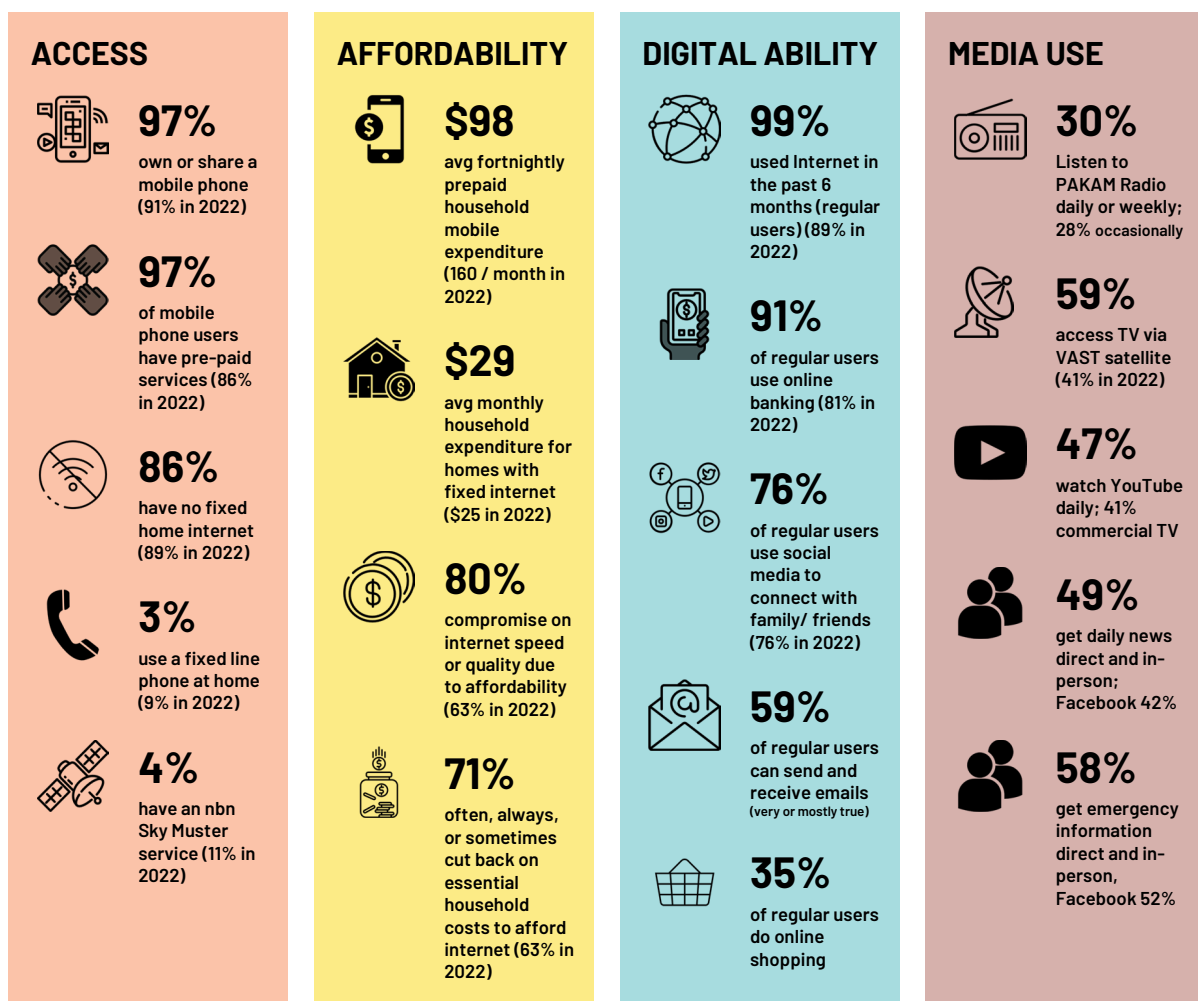
Distance	<b>2,219 km</b>	to WA capital (Perth)
Dwellings	<b>111</b>	private dwellings (65 permanent residents)
	<b>3.3</b>	people per ATSI household
Language	<b>43.2%</b>	ATSI people who speak an Aboriginal language
Income	<b>\$360</b>	median ATSI personal income



Figure 2: Entry sign to Djarindjin community

## Key survey findings

The figure below provides a summary of 2023 survey results.



Full 2023 survey results are available in Appendix 1, with comparison to 2022 results. An updated audit of demographics and communications and media services available in Djarindjin and Lombadina is provided in Appendix 2.

## What is Digital Inclusion? How is it measured?

Digital inclusion refers to equitable and reliable access to and use of information and communication technologies for participation in social and economic life.

The Australian Digital Inclusion Index (ADII) is an annual national survey that measures three dimensions of digital inclusion – Access, Affordability and Digital Ability. ADII scores range from 0 to 100. The higher the score, the greater level of digital inclusion. ADII scores are relative, enabling comparisons across demographic groups and geographic areas over time.

The Mapping the Digital Gap project uses an amended version of the ADII survey to collect digital inclusion data. This enables us to compare results for the participating remote communities, towns and homelands with the national results collected by the ADII, and track changes in digital inclusion between and within these sites.

In 2021, Closing the Gap Outcome 17 was introduced for access to information and services enabling participation in informed decision making regarding their own lives. Target 17 includes a target of equal levels of digital inclusion for Aboriginal and Torres Strait Islander people by 2026.

Combined with ADII data collection, the Mapping the Digital Gap project is helping to track progress against Target 17 for remote, regional and urban First Nations people for the first time.

## DIGITAL INCLUSION

**ACCESS**

- Reliable access to phone and internet
- Access to IT devices and/or facilities
- Access to trusted media, news and information

**AFFORDABILITY**

- Affordable phone and internet services
- Affordable devices

**DIGITAL ABILITY**

- Ability to use digital devices, software and online services
- Awareness of cybersecurity, scams, and viruses

## ADII First Nations data dashboard

The [First Nations dashboard](#) on the ADII website provides interactive charts and community-specific results for the ten research sites in 2022. The Mapping the Digital Gap [2023 Outcomes Report](#) provides summary findings across all sites.

View dashboard using the QR code below:

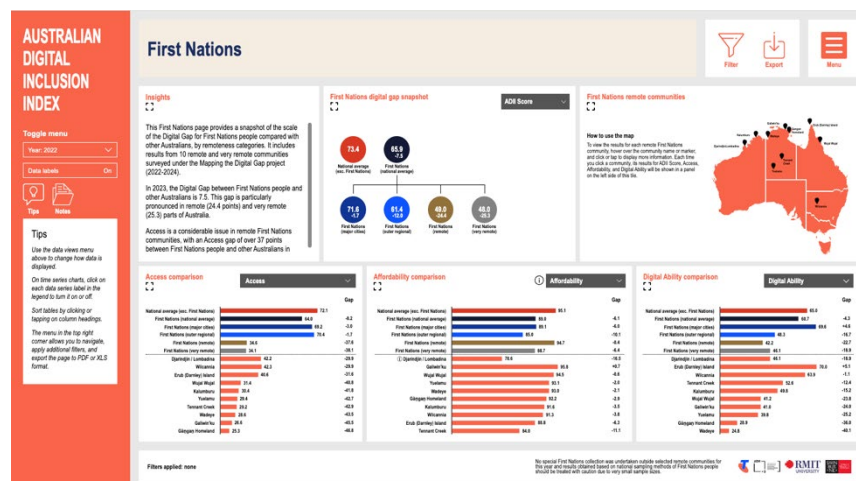


Figure 3: First Nations dashboard on ADII website. [digitalinclusionindex.org.au/dashboard/firstnations.aspx](https://digitalinclusionindex.org.au/dashboard/firstnations.aspx)

## ADII 2023 report findings

The 2023 ADII found a digital gap of 7.5 for First Nations people compared with other Australians. This gap widened substantially for people living in remote (24.4) and very remote Australia (25.3), where contributing factors include limited access to digital infrastructure and services, high internet costs relative to income, climate, geography and cultural context.

Based on our 2022 survey results, the average Australian Digital Inclusion Index (ADII) score for Djarindjin and Lombadina was 47.3, a gap of 25.8 points below the national average for non-First Nations Australians.

The key element of this gap was in the Access dimension score of 42.2, which was 29.7 points below the non-First Nations average, owing primarily to limited household internet access, patchy and slow mobile coverage, and high reliance on mobile devices. The Index scores (see Figure 3) show large gaps for Affordability (-16.2) and Digital Ability (-18.8). However these gaps vary widely for different demographic groups as outlined below.

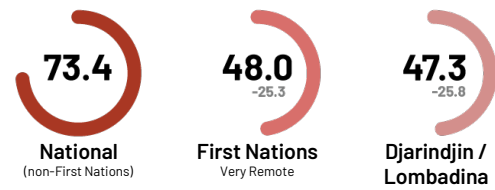


Figure 4: Djarindjin / Lombadina ADII scores compared to National Average (non-First Nations) and Very Remote First Nations scores, based on 2022 surveys

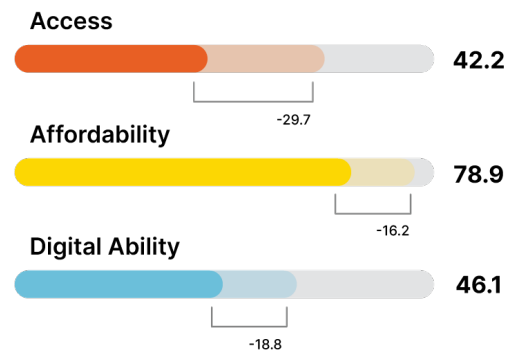


Figure 5: 2023 ADII scores for Djarindjin / Lombadina, with gap against national non-First Nations averages

## Demographic gaps in Djarindjin and Lombadina:

The 2022 survey results found significant variations in digital inclusion between some demographic groups. These results demonstrate that targeted digital support activities would benefit these demographic groups in Djarindjin and Lombadina.

### Education gap

31.9

Those who did not complete secondary school had an average digital inclusion score of 24.6, while those who completed secondary school (Year 12) averaged 56.5. The gap was distributed across the three dimensions: Access (27.1 compared with 43.8), Affordability (69.6 compared with 81.6) and a very significant gap of over 50 in Digital Ability (13.4 compared with 64.7).

### Disability gap

13.1

People who live with disability had average digital inclusion scores of 37.0 compared to 50.1 for those without disability. The gap was primarily in the areas of Digital Ability (21.8 compared with 52.2) and Access (33.9 compared with 44.5).

### Age gap

12.5

Those aged 55–64 had an average digital inclusion score of 43.4, compared with a score of 55.9 for those aged 35–44 years. The gap was greatest in the area of Digital Ability (40.8 for 55–64 compared to 59.4 for 35–44), with a smaller difference in Access scores (37.8 compared with 44.4). Those aged 75+ had an average score of 24.6, 30.3 below the 35–44 age group.

### Employment gap

7.6

The average digital inclusion score for unemployed people was 43.5 compared to 51.1 for those employed (full-time or part-time). The gap was greatest in the areas of Digital Ability (41.2 compared with 51.2) and Affordability (69.6 compared with 81.7).

### Employment type

24.2

Those working as sales workers scored highly compared with machinery operators/ drivers (57.2 compared with 33.0), with the greatest gap in Digital Ability (83.3 compared with 17.7). Those working as community or personal service workers also scored highly (54.5).

Note that low sample sizes may play a significant factor in some of these results.

## 02. INTRODUCTION

The Mapping the Digital Gap project seeks to track changes in digital inclusion and media and communications use in each research site over three years. This report provides an update from our second visit in May 2023, comparing the survey and interview results to our findings from the first visit to Djarindjin and Lombadina in June 2022. It also seeks to track any progress on the suggested strategies for a local Digital Inclusion Plan and update the plan with any newly identified strategies or activities.

### 2022 Findings

In the 2022 Community Outcomes Report, we grouped findings under the following key headings:

- + A range of communication and media services are available and in working order, however household phone and internet access has been limited prior to June 2022
- + There is limited use of fixed internet by households
- + Pre-paid mobile is the primary means of phone and internet access
- + There is a moderate level of digital ability in Djarindjin and Lombadina
- + Affordability of internet access is a concern for people on low incomes.

Both Djarindjin Aboriginal Corporation (DAC) and Lombadina Aboriginal Corporation (LAC) have a strong focus on building local enterprise, tourism, and employment opportunities, and have proactively advocated for reliable communication services to meet community needs. This included seeking WA Government and Kimberley regional funding for a small cell mobile tower to supplement the limited signal from the Telstra base station.



**“Quality communications is] a need [and] we’ve got the rights in Djarindjin to be up there with any place in Australia or across the world.”**

**- Erica Spry, Djarindjin community member, 2023**

In June 2022, the primary means of phone and internet connectivity for residents of Djarindjin and Lombadina was 3G / 4G mobile coverage from a Telstra base station 4 km south on the Cape Leveque Road. Most residents are mobile only users, with 91% of those surveyed owning or sharing a mobile phone.<sup>1</sup> However, we heard from residents and local agencies that the mobile coverage was patchy and slow, especially during peak periods, with poor penetration inside houses.



**“There is a [digital] gap and the need for services ... to assist in these remote areas. I would have thought it would have got better since the road was sealed. It’s actually got worse.”**

**- Sharon Le Ray, Principal, Christ the King School, Djarindjin, 2023**

There was significant frustration with the service quality, especially in wet season with heat, rain and mosquitoes (when accessing mobile service outside at night), and unreliability for making and receiving calls. Interviewees raised concerns about health and safety risks if calls to clinic staff, police or other agencies could not be made or received. Shortly after our visit, the new 4G small cell mobile tower located near the DAC office was activated, with results observed in 2023.

<sup>1</sup> While 61% claimed to have fixed broadband, this figure is likely 11% due to confusion with mobile internet. 11% of respondents had a Sky Muster service and 0% had ADSL, the primary fixed broadband options at the time.

Most local agencies reported using nbn Sky Muster or ADSL as their primary internet service, with the school and multi-function police facility having fibre optic connections. Some interviewees described Sky Muster as having limited speed and being unreliable, especially during rain periods in wet season. Other communications services available to residents included four public phones and a central Wi-Fi hotspot in each community, with low household access to fixed line telephony. Media services included local radio stations – Pilbara and Kimberley Aboriginal Media (PAKAM) and ABC – and VAST satellite TV in most houses, with the local RIBS radio studio not staffed at the time.

A Community Resource Centre that had previously provided community access computers had been repurposed as a local merchandise printing enterprise and café, leaving public access only computers in the Centrelink office, and only for accessing online services. With pressure on local agencies for digital support, there was demand for more access to computers for learning and local enterprise, and for a local digital mentor to provide just-in-time support for those with limited digital skills. DAC were planning to establish a training facility in 2023 to deliver an adult literacy and digital skills program. Affordability of communications services and devices was also raised as an issue for residents, with most on low or unreliable incomes and with very high costs for food, fuel, rent, power and other essentials.

DAC had identified poor and unreliable communications as a significant risk and was investing in improved communications infrastructure at the community office and service facilities, staff housing and its enterprises roadhouse, airport and campground operations to improve broadband speed and reliability. DAC was in the process of installing a fibre optic connection to the office with microwave links to other facilities, as well as Sky Muster satellite services on most facilities for redundancy.

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## 2023 Findings

Since our visit in 2022, there have been several developments in communications services in Djarindjin and Lombadina. The primary upgrade was the new 4G mobile small cell in Djarindjin, which significantly improved the speed, reliability and indoor access for most Djarindjin residents and agencies. There was a tangible sense of relief that people could now reliably access communications where and when needed. However, we heard that there was still very weak mobile signal at the Lombadina Djarindjin clinic, in much of Lombadina and for some northern Djarindjin households, with efforts underway to reduce tree interference and improve coverage.



**“There are big positives [of having improved] connectivity ... being able to do business more efficiently, being able to contact friends and family and all those things very easily. But then one of the negatives is that ... everybody can get in touch with you [and] social interaction is now done between a screen and it's not done around a table [or] a fire.”**

**- Nathan McIvor, DAC CEO, 2023**

The DAC office had the fibre optic connection completed with very fast two-way broadband speeds, described as better than in Broome, with microwave links to the community resource centre (CRC), safe house, depot and other DAC facilities. DAC had improved reliability of communications at the roadhouse, campground and airport and was looking at potential use of further microwave links, Starlink low earth orbit (LEO) satellite services or extension of fibre optic connectivity. While outages and dropouts have reportedly decreased since 2022, communications reliability was seen as critical to service provision, food security and key enterprises.

Other service providers reliant on ADSL or Sky Muster as the primary broadband service reported continued frustration with data speeds and limits, as well reliability issues during wet season. The

Lombadina Djarindjin health clinic described challenges in using telehealth, cloud-based records systems and their IP-based phone system due to unreliable connectivity and IT issues, delays in technical support. While none of the agencies we spoke to were using Starlink for work purposes at the time of our visit, a number spoke of considering the switch to improve speed and reliability, based on feedback from local staff or friends with Starlink installed. PAKAM have since installed a Starlink service for the RIBS facility in the DAC office, to improve radio networking and remote monitoring of broadcast equipment.

The Christ the King School already had a fast fibre connection to the school, enabling use of digital technologies and applications within all levels of schooling, and a focus on digital citizenship. The school staff had recently taken up Starlink satellite services on their houses, with very positive feedback about speed, low latency, unlimited data and reliability even during heavy storms. The increased digital divide between staff and residents within the community was raised, with the high cost of Starlink (\$399 up-front cost of equipment plus \$139/month) limiting likely uptake by residents despite potential benefits.<sup>2</sup>

With cost-of-living pressure increasing, affordability is increasingly a key barrier to digital inclusion. The growing demand for online services, social media and data-hungry media streaming platforms is restricting residents' ability to recharge pre-paid data when needed. Our survey found 71% of respondents had cut back on essential household costs to afford personal or household internet at least sometimes in the last six months (up from 63% in 2022) and 80% compromised on internet speed and/or quality to prioritise affordability (up from 63% in 2022). The 2023 ADII found an Affordability score of 78.9 for Djarindjin and Lombadina, 16.2 points below the national average – the largest gap of the 10 research sites we visited.<sup>3</sup> The high cost of devices (starting at \$249) and regular turnover due to damage or transfer is also an affordability issue.



**“[Access is] pretty good now, the internet. It's probably more about affordability for the community people.”**

**- Daniel VanDerWel, Djarindjin Store, 2023**

Since the arrival of the mobile small cell, we found that First Nations uptake of fixed household broadband services had reduced, with 4% reporting having Sky Muster in 2023 (down from 11% in 2022).<sup>4</sup> Household broadband services are primarily post-paid only,<sup>5</sup> and so are unattractive for households with low and unreliable incomes. With online services increasingly shifting to a user-pays model, there is risk of further excluding vulnerable and low-income people from the services aimed at addressing these barriers. There were calls for a community-wide network to provide a basic level of free internet access.

Based on 2022 surveys, Digital Ability levels in Djarindjin and Lombadina are well below national non-First Nations averages (Index score of 46.1, a gap of 18.8) and slightly below the average in other remote communities visited. As outlined on page 7, these gaps become much greater for vulnerable demographic groups such as the elderly, people with disability, and those who did not complete high school. Service providers reported that demand from residents for digital support had reduced slightly, but elderly people and those with low literacy still required support.

<sup>2</sup> nbn Sky Muster have since introduced a Sky Muster Plus Premium product, with unlimited data and speeds up to 100/20 Mbps. This may not as reliable as Starlink during heavy cloud or rain, but is a more affordable household option.

<sup>3</sup> This is partly due to under-reporting of household income by many respondents who self-completed the survey in 2022.

<sup>4</sup> There was a high level of inaccuracy in our 2022 survey, with many respondents unsure about their means of broadband access, swaying the results.

<sup>5</sup> Activ8me and one other nbn RSP now have a pre-paid month-to-month option for residential Sky Muster, however there is very little promotion or awareness of this option in communities.



“Having good phone line service, having internet, wi-fi, and [for] our households just to get normal TV and be able to get online and do further studies, it’s a need. It’s not a want around here ... And to get a rebate for our families here [because] it’s getting expensive. [We want to get] our mob upskilling, then possibly creating more jobs, and then that’s how we build our communities, for the individual, for the families, and the community’s best benefit. But we need to be there with the rest of Australia ... we shouldn’t be excluded. We should be included in Australia going forward in technology.”

- Erica Spry, Djarindjin community member, 2023

In 2023, we were unable to do surveys or interviews in Lombadina due to a funeral at the time of our visit. As such, this report does not include updated perspectives of Lombadina staff and residents. We will endeavour to address this omission in our 2024 visit.

## Updates to proposed Digital Inclusion Plan

The 2022 Outcomes Report included a proposed digital inclusion plan, outlining potential strategies to improve digital inclusion based on input from research participants. An updated Digital Inclusion Plan is provided in Section 6 of this report, building on the previous plan. This includes new strategies proposed by residents and stakeholders and a summary of progress or planned activities for actions listed.

DAC and LAC have already been proactive in advocating for and self-funding improved communications services over several years, so this plan is intended to build upon significant existing work. It seeks to identify next steps, particularly focused on the digital inclusion needs of Djarindjin and Lombadina residents. Despite having limited resources to self-fund activities, DAC see this plan as a useful tool for advocating for improved services and leveraging external funding and support. As part of our ongoing research work with the Djarindjin and Lombadina communities in 2024, the Mapping the Digital Gap team can assist with development of this plan.



Figure 6: Research team with DAC CEO Nathan McIvor (centre). Our team comprised Daniel Featherstone, co-researchers Marlon Sampi and Audrey Shadforth, and Julian Thomas

## 03. MEDIA & COMMUNICATIONS IN DJARINDJIN / LOMBADINA

### Existing telecommunications services



#### Mobile coverage

There is a Telstra 4G macro cell tower on Cape Leveque Rd, about 3.6 km south of Djarindjin. A new 4G 700 MHz small cell tower was installed near the Djarindjin community office in June 2022, providing more reliable 4G to both communities and penetration inside houses. The other locations on the Dampier Peninsula with mobile coverage are Ardyaloon (One Arm Point) and Beagle Bay. Mobile coverage is by Telstra only.



#### Mobile phones and recharge sales

A basic range of smartphones and flip phones (calls only), as well as pre-paid Telstra recharge vouchers, are available from the Djarindjin store and roadhouse. The nearest Telstra store is in Broome, nearly 200km away.



#### Backhaul to community

A Telstra fibre optic cable runs up the Cape Leveque Road from Broome, providing backhaul for mobile, telephony and ADSL services at Beagle Bay, Djarindjin, Lombadina and Ardyaloon.



#### Landlines

The copper network provides telephony and ADSL capability to local agencies, staff houses and some households in both Djarindjin and Lombadina. 9% of residents surveyed had home landlines.



#### Public Phones

We identified four public phones in Djarindjin. All Telstra public phones are now free to use. During our 2023 visit, three phones were working but the one beside the DAC garage was not working.



#### Wi-Fi hotspots

There are free public Wi-Fi hotspots available at the Djarindjin and Lombadina community offices with nbn Sky Muster backhaul, provided with funding support from the Australian Government STAND program and nbn Communities in Isolation program. DAC also provide free Wi-Fi at the Djarindjin roadhouse.



#### nbn services

Djarindjin / Lombadina, and other communities in the Dampier Peninsula, have no fixed line or fixed wireless coverage, with Sky Muster satellite services being the only option under nbn zoning. 11 survey respondents had Sky Muster satellite services on their homes.



#### ADSL access

There are ADSL services in Djarindjin and Lombadina via the Telstra copper network.



## Telemetry

Telemetry is used for monitoring and operation of power, water and wastewater services, with responsibility for services being transferred to Horizon Power and Water Corporation. Telemetry is also used at the airport for the Bureau of Meteorology weather station.



## HF / UHF Radio

State Emergency Service and WA Police use HF radio for emergency and rescue communications, alongside airport staff for aircraft communications, Royal Flying Doctor Service, and Rangers for land and sea management. Djarindjin AC and airport staff use UHF radio for communications between vehicles and work teams. UHF radio is also used by tourists.

## Media services



## Radio services

PAKAM Radio (106.1 FM) is the regional First Nations radio service with hourly shows from Remote Indigenous Broadcasting Service (RIBS) communities across the Pilbara and Kimberley regions. There is also an ABC regional radio service (104.5FM). There was no local RIBS broadcaster at the time of our visit.



## TV services

All houses in Djarindjin / Lombadina require Viewer Access Satellite Television (VAST) direct-to-home satellite for free-to-air TV services. These were working in homes of 71% of those surveyed in 2023 (82% in 2022).



## Newspaper

There is no access to printed newspapers.



## Local and regional news

Local news is shared via Facebook, a monthly DAC newsletter (Djarindjin Jawal), noticeboards at the Djarindjin office and store, and via word of mouth. Regional news is shared via PAKAM, ABC radio and Facebook. The Djarindjin RIBS shares local news over the PAKAM network.

## Access and support facilities



## Community access facilities

The Centrelink office has one computer available to residents to access online government services. The DAC-run Community Resource Centre also has an online computer for community use and access to government services.



## IT support

Support in accessing and using online government services is available from DAC staff at the Centrelink and community office. The Lombadina Djarindjin Health Clinic provides some support in using online health services.

## 04. KEY FINDINGS FROM DATA ANALYSIS

This section provides key findings from the 8 interviews conducted with community leaders and stakeholders, as well as observational data and survey results. The analysis builds upon the findings in the 2022 Community Outcomes Report, with new topics labelled with 2023 after the heading.

See Appendix 1 for the full set of unprocessed survey results from 2022 and 2023. As outlined in the Executive Summary, the finalised results published in the [2023 Outcomes Report](#) and on the [First Nations dashboard](#) of the Australian Digital Inclusion Index website can differ slightly from raw survey results following data cleaning and weighting against ABS data.

### Communications Access

#### **Djarindjin community has proactively improved its communications services, but at high cost**

Djarindjin Aboriginal Corporation (DAC) runs the municipal program (funded by the WA Government), community services for Djarindjin and Beagle Bay (safe house refuge, aged care facility, early childhood parenting program, men's shed program, youth program, community resource centre with print shop and café) as well as commercial businesses – community store, roadhouse, campground, 100% shareholders of Djarindjin Airport Pty Ltd, and 50% shareholders of Kooljaman Wilderness Resort.

Previously, the community struggled with limited communications services unable to meet growing community and enterprise needs, with patchy 4G mobile coverage and slow connectivity to the DAC services. DAC has been proactive in advocating for improved mobile and internet communications to meet the needs of the community, along with significant investment to improve connectivity for its municipal programs and enterprises, including the Roadhouse, campground and airport.

When we visited in June 2022, DAC had recently installed Sky Muster satellite services to the office, staff houses and other community facilities – Community Resource Centre (CRC), women's safe house, workshop and roadhouse – to supplement the existing ADSL service. DAC has also set up a microwave repeater from the Roadhouse to the community office and a 4G booster at the Roadhouse to reduce congestion.

By our May 2023 visit, DAC had installed a fibre optic connection to the community office, which also supplied other DAC facilities by microwave link. This improved service speeds and reliability, with more symmetrical services.



Figure 7: An array of communications equipment on the DAC office roof and broadcast tower

- “I’m trying to look at ways that we can do better business with better connectivity ... We’ve had fibre optic installed [to] the office, so our download and upload speeds (about 70 Mbps down, 65 Mbps up) are better than Broome. So, [I’m] pretty happy with that.” (Nathan McIvor, CEO, Djarindjin AC, 2023)
- “Since the fibre optic came in [a] few months ago ... everything’s been a lot better. [Before then] you’d have days that it works and days that it doesn’t work, and you’ve just got to ring up technical support to find out when it’s going to come back on or what to do.” (Sarah Ougham, Djarindjin AC, 2023)

The Sky Muster satellite services were retained as redundancy in case of Telstra outage.

- + “I would rather pay for that redundancy and have it there when we need it than be screaming blue murder when we don’t.” (Nathan Mclvor, as above, 2023)

DAC has invested hundreds of thousands of dollars to address its connectivity issues, including about \$40,000 to install the fibre link, as well as having high monthly costs for usage. However, CEO Nathan Mclvor sees this as a necessary investment to ensure reliable services.

- + “[Our last bill was] about three grand ... The monthly charges are considerable, but from a business point of view it’s worthwhile.” (Nathan Mclvor, as above, 2023)

As next steps, DAC were considering options to improve connectivity speed and reliability at the roadhouse or airport, either by microwave link, Starlink satellite services, or possibly a direct fibre optic connection to the airport.

## The 4G small cell has improved mobile services in Djarindjin, but Lombadina has limited access [2023]

Our 2022 Outcomes Report described the patchy 4G coverage, congestion and slow speeds in Djarindjin and Lombadina. 3G and 4G mobile service was provided from a Telstra tower 4 km south of Djarindjin by the Dampier Peninsula Road, with the weak signal likely due to transmitter alignment and thick vegetation in the signal path. People referred to searching for signal within the community, with most having to go outside of the house to make or receive calls. We heard of regular dropouts in calls and using the internet.

Following unsuccessful efforts to gain 2019 Mobile Black Spots Program (MBSP) funding, DAC sought WA Government funding support for a 4G small cell tower in the community. Royalties for Regions funding was approved by the Kimberley Development Corporation, with support from the local Prescribed Body Corporate, and the Department of Planning, Lands and Heritage assisted with site approvals. Originally scheduled for December 2021, Installation was delayed by COVID and site approval processes.

The new 9-metre 4G (700 Mhz) small cell tower was being installed during our 2022 visit, with activation shortly afterwards. In the July 2022 edition of the Djarindjin Jawal newsletter, the CEO reported improved signal strength, data speeds<sup>6</sup> and reception inside houses.

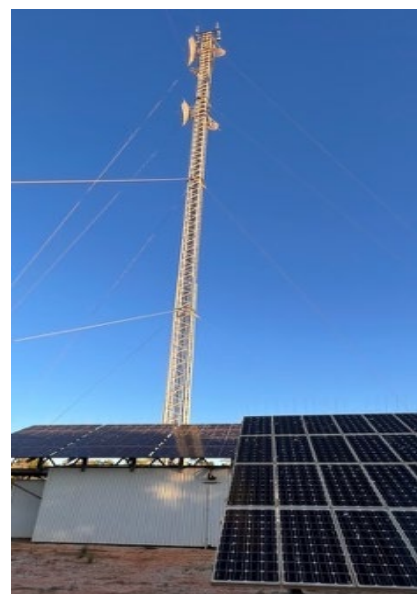


Figure 8: The 3G/4G mobile tower on Dampier Peninsula Road



“The Telstra Small Cell Tower is up and operational. This is a giant leap into the 21st century for Djarindjin (better late than never). It is now possible to get 4G reception inside our houses. No more missing phone calls and messages, no more braving the weather and mozzies just to make and receive calls. Don’t have to say how happy we all are about this.”

– Report by Nathan Mclvor, CEO, Djarindjin AC, 2022

<sup>6</sup> We recorded speeds of about 90 Mbps download / 60 Mbps upload close to the tower using the Ookla app.

Community residents and staff, who had eagerly awaited the new mobile tower, were pleased to be able to access mobile service inside their premises.

- + “You can stay in the room to use your phone now ... you used to have [to] sit outside. It’s very good [now, people are] happy.” (Audrey Shadforth, Centrelink agency officer / co-researcher, Djarindjin, 2023)
- + “Before they upgraded that tower [the mobile would] be cutting in and out [inside the store. Since the new tower] it’s been brilliant. No complaints at all.” (Daniel VanDerWel, Djarindjin Store, 2023)

However, the coverage from the tower does not reach all premises, with little or no improvement at Lombadina community and houses to the north of Djarindjin, likely due to interference from buildings and trees in the signal path. A resident from the northern part of the community reportedly complained about still having to go outside to access the signal.

- + “She’s not getting service in her house, she’s got to go outside [with] the mosquitoes [to use the mobile].” (Marlon Sampi, Resident/ Co-researcher, Djarindjin, 2023)

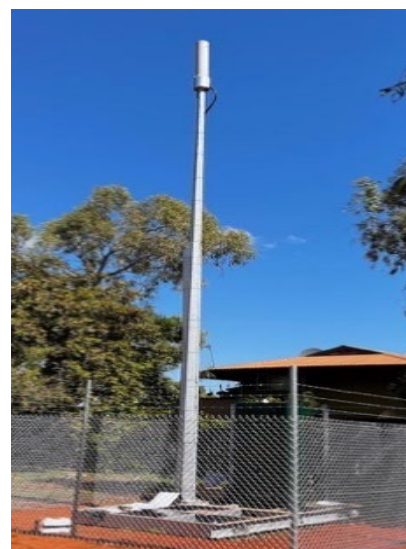


Figure 9: The new 4G small cell tower

We also heard that there has been no improvement in signal at the Lombadina Djarindjin clinic and staff houses, located approximately 400 m west of the new tower beyond the school.



*“Cell phone reception is horrible in the [clinic staff] houses, we have very poor reception ... They said that with the tower it’s going to improve things. It hasn’t changed anything at all ... Sometimes I get 4G, but when I’m talking to someone on the phone I sound like I’m underwater. I have to go outside and stand like this (holding up hand).”*

*- Karolien McBride, Remote Area Nurse, Lombadina Djarindjin Clinic, 2023*

It is unclear what consultation was undertaken to determine the site selection or tower height.

- + “We weren’t [consulted. They] may have talked to the people further up, but we only heard about it [after] it was being set up.” (Karolien McBride, as above, 2023)
- + “I did say to them that I thought it was a little bit too small ... it should have been at least 15 [metres. We] need to lop down some trees that are around the small cell tower ... because the trees are cutting off some of the [signal] towards the Lombadina side.” (Nathan McIvor, CEO, Djarindjin AC, 2023)

To improve mobile reception for clinic staff, the houses had been fitted with a Yagi antenna and mobile booster.<sup>7</sup> However we heard the noise and light emitted from the booster was disturbing at night.

- + “We’ve had boosters put into our houses to try and extend our internet. It kind of works [but has a] very bright light [and] make a horrible noise sometimes at night and

<sup>7</sup> This is possibly a Cell-Fi or Telstra Go repeater (see <https://www.telstra.com.au/coverage-networks/network-coverage-extension-devices>)

I have to unplug it. [So] we use [the] long range landline [from the clinic instead].”  
(Karolien McBride, as above, 2023)

The establishment of the small cell tower appears to have reduced the load on the macro-cell on the highway, with some interviewees reliant on that tower reporting improved service quality.

- + “[After the small cell tower was installed in] town here [there was] a definite improvement, especially at the roadhouse. [It no longer] cut in and out all the time. [When] we were living in the house next door to the roadhouse ... you'd be lucky to watch Netflix [on your phone. After the small cell went in] it was great after that.”  
(Dannielle VanDerWel, Djarindjin Store, 2023)

## There is limited connectivity throughout much of the Dampier Peninsula

While there are mobile towers at Beagle Bay, Djarindjin and at Ardyaloon (One Arm Point), interviewees referred to limited connectivity in other sections of the 220 km Dampier Peninsula Rd from Broome.

- + “[The mobile reception is] reasonable in Beagle Bay and One Arm Point. [But] there's [large areas] on the peninsula where there's just absolutely no coverage.” (Andrew Henshaw, Senior Sergeant, Dampier Peninsula Police, 2022)



“[Mobile coverage is] a big problem ... throughout this peninsula [with] no reception. [Without] the sat phone you [have no] communications.”

- Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023

- + “I come out from Broome [and we] look [for] the towers ... And then bing, you got signal coming into the Beagle Bay area, quick make a phone call at Beagle Bay turnoff. Quick, check your emails, or let's text someone at Beagle Bay [or] Djarindjin [to let them know we're] coming in. But we got [big] gaps [where] the signal cuts out.”  
(Erica Spry, Djarindjin community member, 2023)

While the mobile service is reportedly good at Beagle Bay, we heard that signal strength is an issue in Ardyaloon (One Arm Point).

- + “Outside is pretty good, but inside the house is just not powerful enough. [We go outside at home] to get connection, [but inside] it drops out. There's a big need up here.” (Phillip McCarthy, as above, 2023)

The lack of communications access in coastal areas was raised as a safety risk.

- + “If we're [at a fishing spot along] the beach [and break down] we need to make that phone call ... If something's happened [you need to be able to] communicate to somebody.” (Erica Spry, Djarindjin community member, 2023)

There were calls for improved mobile connectivity throughout the region.

- + “It'd be great if you could get connectivity right the way [along the Dampier Peninsula Road].” (Sharon Leray, Principal, Christ the King School, Djarindjin Lombadina, 2022)

## There are Wi-Fi enabled phones in many of the homelands [2023]

There are about 16 freestanding satellite-delivered Wi-Fi phones and 13 public phones in homelands on the Dampier Peninsula, managed by APN (branded as Activ8me).<sup>8</sup> The homelands with public phones in the vicinity of Djarindjin include Bygunn (Djoodjoon), Chile Creek, Mudnunn (Gullun) and Nyumwah. APN are in the process of switching over satellite backhaul for the Wi-Fi phones from IP Star satellite to nbn Sky Muster Plus Premium backhaul, which will enable unlimited data use on the Wi-Fi and free internet use and calls.



Figure 10: A satellite Wi-Fi community phone (photo from Galiwin'ku NT)

However, reliability of the Wi-Fi phones was raised as an issue. We heard that people living on homelands outside of the communities felt very isolated during COVID lockdowns due to the lack of communications, especially when phone services were not working.

- + [During] COVID time, I was working from home [on the outstation. The Activ8me satellite phone wasn't working and the lack of communications affected] my mental health because I couldn't talk to anybody [from] out there. I quickly got onto nbn and told them ... I need this thing upgraded ASAP. So they were good about it. [But] I was off the internet for five weeks [so I couldn't use my computer for work or] other stuff." (Resident, Djarindjin, 2023)

## Impact of network outages

Network outages can have a significant impact on remote communities where there is a lack of backup communications options. In 2022 we heard about the impact of several recent outages causing lack of access to online systems. These outages impacted EFTPOS and ATM usage, leading to significant unrest within the community. While the regularity of outages appeared to have decreased in 2023, we heard about a recent wet season outage during our 2023 visit.

- + "There was a couple of days [during that big flood period] where we had no connectivity at the roadhouse. We had issues here at the store." (Nathan McIvor, CEO, Djarindjin AC, 2023)

The outage led to the closure of the store due to EFTPOS and ATM facilities not being operable. To avert food security issues in the community, the store gave food away to local families.

- + Six weeks ago, all the internet went down just for the store here [at about 11 am]. There was an IT issue. [Because] nobody had cash, everybody uses card [we] gave all the food away and closed the door [to stop] people walking in, getting angry and walking back out. It just wasn't even worth keeping the doors open without internet." (Daniel VanDerWel, Djarindjin Store, 2023)



Figure 11: Djarindjin community store

Outages impact on the service delivery and enterprises that DAC operates.

<sup>8</sup> These are provided through funding from the National Indigenous Australians Agency, with Australian Private Network (APN) contracted to maintain these services.

- + “Everything’s online these days. [Without] good connectivity, you can’t run your business appropriately. So, for example, our 24 hours, seven-day fuel stock, if [the 4G] drops out, people can’t get [fuel], business [slows] down [and we] lose money ... Same thing when it comes to EFTPOS machines. If we don’t have connectivity, we lose money.” (Nathan McIvor, CEO, Djarindjin AC, 2022)

To reduce the impact of outages, DAC is seeking to install redundancy systems with at least two alternate means of connectivity at each of its facilities.

We heard about a recent outage at the clinic, with fixed line communications cut by lightning. Reportedly this is a recurring issue during wet season, impacting on clinic operations and emergency contact.



“There was an electrical storm a couple of weeks ago so we lost all phone reception [to the clinic]. This is the second time it’s happened. It happens almost once a year and it burns out the wires so they have to reset the systems ... this time it was only like a week, whereas last time it was out for six months. So we were having to use a walkie talkie at the front door for people to talk.”

- Karolien McBride, Remote Area Nurse, Lombadina Djarindjin Clinic, 2023

## Pre-paid mobile is the primary means of phone access, with low fixed line or public phone use

97% of survey respondents owned or shared a mobile phone (up from 91% in 2022), with 97% saying they regularly used their mobile phone for phone calls. Of those with phones, 87% had smartphones as their main mobile phone, and 97% used pre-paid services (up from 86% in 2022). 14% use the phone at a community office or workplace, and 3% use a fixed line telephone in their home (down from 9% in 2022). 10% of respondents said they used the public phone for making and receiving calls. Of the four public phones in Djarindjin, three of these working at the time of our visit.<sup>9</sup>

While there is some uptake of home phones by residents, this is constrained by limited household connectivity and reluctance to sign up for post-paid services.

- + “The cost of putting a landline in [and] then paying the bill ... it’s much easier just to have a pre-paid mobile phone.” (Nathan McIvor, CEO, Djarindjin AC, 2022)

## There is limited home internet access, with heavy reliance on pre-paid mobile data

Since the small cell 4G service was introduced, home broadband services reduced in First Nations households. Only 4% of those surveyed in 2023 reported having a Sky Muster service compared with 11% in 2022. One respondent had an ADSL connection in 2023 and none had Starlink services.<sup>10</sup> The primary reason people gave for not using Sky Muster services was concerns about ability to pay the monthly bills.<sup>11</sup> Other issues raised were that satellite services are unreliable during wet season and that the basic Sky Muster services had insufficient data limits to meet household needs.

- + “All the teachers [have satellite services but] not the community people ... Might be two or three [houses have Sky Muster].” (Audrey Shadforth, Centrelink office worker / resident, Djarindjin, 2023)

<sup>9</sup> The public phones in Djarindjin are maintained by Australian Private Networks, not Telstra.

<sup>10</sup> 86% of respondents to our 2023 survey reported having no fixed internet service, but this is more likely 95% based on reported Sky Muster and ADSL access. In 2022, 39% reported not having fixed home internet, however respondents likely included mobile access at home, with only 11% having Sky Muster and 0% with ADSL.

<sup>11</sup> Most retail service providers offer Sky Muster products with no lock-in contracts, however these are different to a true pre-paid option which allow more flexibility of the timing and amount of payments.

In late 2023, nbn introduced a new high-speed Sky Muster Plus Premium product. This provides unlimited data use and download speeds of up to 100 Mbps for a monthly cost of between \$59 and \$99. While this is more affordable than Starlink, it is still only available as a post-paid service.

The majority of households rely on 4G mobile coverage as the primary source of internet access. While the 4G signal was primarily available outside houses in 2022, the new 4G small cell tower enabled most Djarindjin residents to access signal inside their house.

- ✦ “[There’s] better connectivity now for everybody in community, so people can take phone calls inside their house and watch movies, do those sorts of things ... Some people [have] bought modems [to] assist with Netflix.” (Nathan McIvor, CEO Djarindjin AC, 2023)

Our 2023 survey found that 10% of respondents reported using a mobile broadband service, such as Wi-Fi dongle, down from 23% in 2022. This suggests that the dongles, previously hung from the window or verandah to pick up a signal, were no longer required to access a signal inside the house.

## **Sky Muster is still a primary mode of internet access for agencies and staff housing**

Most agency staff have nbn Sky Muster services. Of those agencies using Sky Muster services, there were mixed reports about performance, with issues raised of dropouts due to cloud cover, especially in wet season, and the need for faster speed and higher data limits.

- ✦ “[Communications have] gotten better since we've got nbn ... it's what we needed. [Instead of waiting] on the phone trying to get through to a service [we] can just flick an email off. [But] we've had problems over the wet season. There's no internet with the cloud cover and rain.” (Resident, Djarindjin, 2023)
- ✦ [The Sky Muster at the clinic goes] off and on ... sometimes it works and sometimes it doesn't.” (Karolien McBride, Remote Area Nurse, Lombadina Djarindjin Clinic, 2023)
- ✦ “The livelihood of Djarindjin relies on internet. We had a few issues. [When] big rain comes [in] wet season, that will affect internet [here at the store and] the roadhouse as well. It kind of puts us at a halt where we can't do emails, we can't do anything really with no internet. We lose EFTPOS [and because most people] don't carry cash ... that causes a bit of an upset.” (Dannielle VanDerWel, Djarindjin Store, 2023)

## **Starlink had increased uptake by staff, but concerns raised about ordering and costs [2023]**

While Starlink was not an option in northern Australia at the time of our 2022 visit, it has since expanded to provide national coverage across Australia including the Kimberleys. DAC were considering Starlink as an option for some of their facilities not able to be connected by microwave link.

- ✦ “I [think] Starlink would be a good option for Djarindjin as well as for the airport ... from the business perspective it's really something that we need to have [because] the wind just has to change and we've lost connectivity [on 4G]. [So] Starlink would be a better option.” (Nathan McIvor, CEO, Djarindjin AC, 2023)

Several local staff residences had set up Starlink services in 2023, including most of the teachers, following changes by Catholic Education WA (CEWA) preventing shared use of school internet to staff houses. CEWA offered to have Sky Muster services installed at staff houses, but all staff opted for Starlink due to concerns about the speed and reliability of the Sky Muster service, especially in wet season. We heard glowing reviews of the new Starlink services, with reliability even during heavy rainfall.

- ✦ “I’ve never had faster Wi-Fi, even in Perth. [It’s] absolutely amazing. The bonus about Starlink is the fact that you can own your own hardware ... It comes so quickly. You order it online, and it’s made for remote conditions. [And] during the cyclone, it was still fantastic ... still connecting. In the past, even our fibre optic, our signal from CEWA [would stop], the television goes. [But the Starlink service didn’t] miss a beat, [even in] fairly severe rain ... I’ve told CEWA that they’ll save a lot of money if they [install] Starlink.” (Sharon Le Ray, Principal, Christ the King School, Djarindjin 2023)

The Bardi Jawi Rangers are also looking at switching to Starlink, having seen it used at the school.

- ✦ “That’ll be great if we can get onto [Starlink. It would] make a hell of a lot of difference. [We got] the school to recognise that, and got it for their teachers [like in Djarindjin. If we got it here, it’ll] affect everything.” (Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023)

The Starlink motorised satellite dish and hardware have to be purchased up-front. These originally cost \$899 but now cost \$399, with special deals offered at times. The equipment is sent out for self-install, with an app to identify the best location with the least interference from trees in the signal path. The service costs \$139/month, which is out of reach for most First Nations households. An optional roaming plan is available for an additional \$30/month, which enables the unit to be relocated or used while travelling.



Figure 12: A Starlink satellite dish

- ✦ “I’m paying \$170 a month [including roaming] so that you can take it anywhere you like. [It’s worth it] for the amazing connectivity, and it’s unlimited data. [I] don’t mind paying that much if I’ve got total access all the time.” (Sharon Le Ray, as above, 2023)” (Sharon Le Ray, as above, 2023)

For people living in remote locations without official street addresses, the roaming plan may be the only option. As Djarindjin streets are not gazetted, the staff had to use an alternate address for their orders.

- ✦ “You have to have a physical address [for the order], so I just put it down to our CEWA office in Broome ... When I picked up the unit and plugged it in ... you can change the actual address [and it is locked to that address. With roaming] you can put it wherever you want.” (Sharon Le Ray, as above, 2023)

However, Starlink was not seen as an option by most residents due to the high cost of up-front equipment and monthly bills. While high-speed connectivity is now possible for those on reliable incomes, Starlink is widening the existing local digital divide based on affordability of fixed internet services.

- ✦ “So all of our teachers have the internet, all of our staff have Wi-Fi, but my Aboriginal teaching staff don’t. And their families. So ... when we had the COVID situation, we can’t do remote online learning, [it’s] all paperwork ... We can’t send them home with an iPad ... there is a gap there, because our kids aren’t getting the [opportunity for] doing homework or some creative stuff.” (Sharon Le Ray, as above, 2023)

## Free public Wi-Fi is available at the community office and store

There is free Wi-Fi access available around the Djarindjin community office and store, provided by nbn under its Communities in Isolation program<sup>12</sup>. This service is delivered via Sky Muster Plus Premium, which has unlimited download and speeds of up to 100Mbps. At community request, the Wi-Fi service is restricted to 8 am to 7 pm to prevent use at night, with the service also switched off on weekends.

<sup>12</sup> This program is funded by nbn to 31 December 2024, with nbn to review future arrangements during 2024.

- ✦ “[We] provide [free Wi-Fi for] the community [to use for] banking [or to] get on Instagram and Facebook. But [they can’t] access inappropriate sites and [gambling sites], that sort of stuff. [It gets] switched off at night time because kids were hanging around all hours of the night.” (Nathan McIvor, CEO, Djarindjin AC, 2023)

The free Wi-Fi service is well used by community residents, with nbn usage data finding the Djarindjin CII service was used by up to 22% of the local population (compared with an average of 10% in other sites).

- ✦ “We always use the Wi-Fi at the shop ... You’ll see mainly all the young kids hanging around there using the Wi-Fi [but] it goes off at night.” (Natasha Fejo, Receptionist / digital support, Lombadina Djarindjin Health Clinic, 2022)

Lombadina community office also has a free nbn public Wi-Fi hotspot, provided under an Australian Government Strengthening Telecommunications Against Natural Disasters (STAND) program, funded to 31 December 2025. Djarindjin also has a second Wi-Fi service provided under the STAND program.

Beyond a central Wi-Fi hotspot, there were calls for a Wi-Fi mesh delivery model as a way of providing households with affordable internet access.



*“I think houses should be [have] their own Wi-Fi. [In Broome there is Wi-Fi] on the public telephones [and shops and] airports ... We should [not] be paying through the roof [for] internet when [we have limited access and] it costs us to go to town [for services]. We pay enough taxes [so] Wi-Fi in everyone’s house out here should not be discounted.”*

- Erica Spry, Djarindjin community member, 2023

- ✦ “It would be really encouraging if the community [had] Wi-Fi at every house for safety as well as for learning and education, and digital citizenship.” (Sharon Leray, Principal, Christ the King School, 2022)

WA Government have co-funded community-wide Wi-Fi mesh network in several remote WA communities, including Kalumburu<sup>13</sup> and Mowanjum in the Kimberley region. The DAC CEO said that DAC could not self-fund a community-wide Wi-Fi mesh network, but he was supportive of the concept. However, he advised that DAC do not support a model of providing free household Wi-Fi for a limited period, but prefer a pre-paid voucher system as a more sustainable model.

## Mobile phones are not considered a reliable communications tool when out at sea

The Bardi Jawi Rangers are often called upon to do search and rescue of boats that are broken down or in distress at sea. With very fast-moving tides and islands in King Sound blocking mobile signals, the use of mobile phones is not recommended as a means of emergency communications.



*“Beyond the island, you’re not going to get reception. [We rescued a family] a couple of years ago. [Luckily they] got reception [in] a gap between the islands ... When they first made contact, they were pretty close. [But] we’ve got very strong currents, and then you’ve got easterly wind blowing [so] by the time I got out [they had drifted about] twenty nautical miles away from where they first came out. [By] having traditional knowledge [of the tides] I went in the right direction [but it could have been a different outcome].”*

- Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023

<sup>13</sup> See case study in our 2023 Kalumburu Community Update report at <https://apo.org.au/node/325753>.

While many locals only carry a mobile phone when going out boating or fishing, the Bardi Jawi Rangers recommend having an emergency position indicating radio beacon (EPIRB). They have a supply of emergency kits with EPIRB and flares for community members to borrow.

- ✦ “EPIRB is probably the most important instrument on a vessel, more than anything else. [An EPIRB] is going to save your life if you’re sinking. [So] the Department of Transport, with the Maritime section in Broome, they give us a handful of bags, so it’s just got your basic information, basic lifesaving instrument, which is flares and EPIRB.” (Phillip McCarthy, as above, 2023)

While some sites we visit have reported significant delays between sending EPIRB signals and a rescue vehicle being mobilised, the Kimberley region have a relatively fast emergency response.

- ✦ “The EPIRB works [well here] because they don’t have to fly the helicopter [from Broome. The.local] police [are] the main [contact for] sea rescue [who often ask us to] deal with it. [So] we can be out there within half an hour .... I broke down once, and [I] put the EPIRB me ... It was a good tool.” (Phillip McCarthy, as above, 2023)
- ✦ The Rangers also carry satellite phones but these are too costly for most residents. However, new iPhones are enabled with SOS signals for sending an emergency signal when outside of mobile range, with satellite messaging capability likely to expand to other devices up, and I think within half an hour had the coast watch buzzing over in coming years. Also relatively affordable portable satellite communications devices, such as Zoleo or Spot GPS, enable users to send emergency signals or a text message to family members.

## Switch-off of 3G in June 2024 may impact some devices and locations [2023]

As part of a national phase-out of 3G services to re-allocate spectrum for higher capacity 4G and 5G services, Telstra is switching off 3G services by 30th June 2024.<sup>14</sup> However, there was a lack of awareness about 3G switch-off among Djarindjin residents we spoke to in 2023.

3G-only devices will no longer work after that time, including mobile phones, modems, mobile boosters, remote monitoring equipment and health warning devices. Additionally, some older 4G-enabled Android and iPhones will no longer be able to make 000 emergency calls due to these being only via 3G<sup>15</sup>. Telstra have set up a service for customers to determine whether their device will be affected by sending an sms 3 to 3498.

While 3G may have limited data capacity compared to 4G, it is currently relied on heavily for voice communications in some homelands outside of 4G coverage. Telstra have publicly committed to boosting its 4G coverage to a "materially equivalent size and reach" compared to the 3G network.<sup>16</sup> However, it is possible that some locations with 3G access currently will no longer have mobile access after the switch-off. Residents should contact Telstra if they are without a service after 30 June.

## Service Delivery and Use of Online Services

### The Centrelink office is a primary point of access for online services and support

The Centrelink agency is run out of the DAC office complex as a self-serve facility with two access computers and phones. With a lack of home internet access and some people having limited digital ability to use online services, the local Centrelink office plays a critical role in access to services and support.

<sup>14</sup> <https://www.zdnet.com/article/telstra-flags-3g-switch-off-planned-for-2024/>

<sup>15</sup> <https://www.abc.net.au/news/2024-04-08/million-iphone-android-devices-caught-out-3g-shutdown/103673864>

<sup>16</sup> See: <https://www.telstra.com.au/support/mobiles-devices/3g-closure>

- + “Some people ... have no vehicle to go into town to do Centrelink business. So that’s why we have a centre here, to help along the Centrelink and give some money for them you know.” (Audrey Shadforth, Centrelink office worker/ resident, 2022)

Audrey Shadforth works full time for the Djarindjin Centrelink office, helping clients to complete forms, use online services and email, set up MyGov and talk to Centrelink on the phone when needed.

- + “[Most people] know how to use [MyGov on] the computer ... they’re very good at doing online things ... And if they need help I go and help them. If they haven’t got any MyGov I help them along set up a MyGov with internet and everything. And on the phone if they can’t get ID [I help] them.” (Audrey Shadforth, as above, 2023)



Figure 13: Centrelink office worker Audrey Shadforth

Audrey assists people to deal with obstacles to use of digital services, including setting up of email accounts or forgetting passwords. While most residents are now confident with using online service apps on their mobile phones, some people do not have phones, mobile coverage or the digital skills to access services independently.

- + “[We need] the technology [and skills to access services like] Centrelink now, MyGov stuff. [We’ve changed] from having someone in an office with paperwork, they used to scan it all for us, but now we’ve got to go on MyGov. I know this COVID came in and pushed us more [online]. It’s new but there’s benefits in having it.” (Erica Spry, Djarindjin community member, 2023)

The computer and free Wi-Fi at the community office provide basic access to online services. Without this, some people can struggle to do Centrelink reporting due to lack of mobile credit and long wait times.

- + “Some [people] say it’s too hard on the phone when they sit in the Centrelink it takes three or four hours to get an answer. So sometimes they use their own phone for MyGov and to go online [using the free] Wi-Fi here [or] at the office if they haven’t got any credit or anything on their phone.” (Audrey Shadforth, as above, 2023)

### Good connectivity at school enables use of digital learning tools and apps

The Christ the King Catholic School has about 70 students from Djarindjin and Lombadina enrolled in school and pre-school programs from infants through to Year 10. They also support some Year 11 and 12 students to do distance education. The school provides the SCASA (Schools Curriculum and Standards Authority) curriculum using a two-way learning model, with a staff of 7 full-time qualified lead teachers and 12 Aboriginal teaching assistants, cooks and ground staff. Subjects cover literacy, numeracy, maths and culture, as well as digital technologies, art, woodwork, hospitality and a Bardi language course.

The school uses a wide range of digital technologies within most subjects as learning tools.

- + “Digital literacy is [part of] the general [coursework] rather than [a stand-alone subject]. Our whole school learn all different apps each term. [In] Term 2, we look at digital learning [and in] Term 3 we do robotics. And then Term 4 it’s more about the [online safety]. Digital consultants [teach] the kids and the teachers ... how to use green screen ... stop motion, iMovie [and] oral language template apps [like] Book Creator [to] create stories [or comic strips].” (Sharon Leray, as above, 2023)

Years Three to Six use iPads with a range of apps, and years Seven to 12 use laptop and desktop computers for web-based learning and to develop keyboard skills. The iPads have a range of apps provided through the CEWA (Catholic Education WA) learning suite, including Reading Eggs, Mathletics, Minecraft STEM technology, an early coding app called Scratch, Procreate, and literacy, numeracy, science and maths apps.

- + “The little ones [use] the iPads [to play] Minecraft [and use] Indigital [and Sim City and] creating these templates and monsters and dragons ... the kids are showing me how to do it ... it’s a bit beyond me!” (Sharon Leray, as above, 2023)

Older students do online learning, with remote specialist tutors supporting the secondary teacher.

- + “As the kids get older, we put them onto desktops, and then they’re doing digital learning [through] School of Distance Education, so everything’s web-based, they’re looking up everything. So they become quite proficient in using a lot of programs ... Our secondary students are [learning] how to use Word and Excel spreadsheets and different types of platforms [like] Webex [and] Skype [which] leads them on to further study.” (Sharon Leray, as above, 2023)

The school has a fibre optic broadband link, networked to each classroom, with a satellite backup system.

- + “We [have] equal capacity as [schools in] Perth [with] the same technology. Our bandwidth and our speed is excellent. We also have a backup satellite so if anything does go wrong, we are able to keep it running.” (Sharon Leray, as above, 2022)

There are units of digital citizenship taught at the school, a term now used within the national curriculum.



“Digital citizenship is around that whole way that we communicate and use our devices, the language, the way we text [or email or speak on the phone], the way that we relate and communicate to other people. [It’s] that whole idea of [being] a good practice citizen living in a global world and being able to use the latest technology and digital devices and be able to share that knowledge in an ethical and responsible manner.”

– Sharon Leray, Principal, Christ the King School, 2022

The school provide training in cyber-safety awareness, which the Principal believes is an important life skill now with the high level of online access and risk of cyber-safety issues. The school have banned phones from the school to reduce the risk of access to inappropriate content.

- + “I am concerned [that] parents are just giving [children] the phone [without any parental controls, so kids are] on YouTube and TikTok ... and it’s just unguarded. [We’ve] blocked YouTube [and TikTok] from virtually all of the early learning kids, right up to Year 4, and then we have a [management system] which allows us to [monitor] the kids on the iPads.” (Sharon Le Ray, as above, 2023)

The School find it challenging to communicate with parents with limited home connectivity and changing mobile numbers.

- + “We have a real problem here at school [contacting] parents ... So parents are changing their SIM card all the time, or changing their phones [and] we can’t keep up. [So] we tend to Facebook parents more than anything, because we know that they’re all on the Facebook. [We’re] using Seesaw and stuff like that, as comms for parents [but] it’s going nowhere. [We] also use a program called Sector that’s an attendance program, [so] if a child isn’t at school, we’re meant to be able to SMS the parent [but] it bounces back all the time.” (Sharon Le Ray, as above, 2023)

Parents can also find it challenging to access and use the new forms of online communications.

- ✦ “The schools are [communicating via Seesaw now]. They don’t send paper notes home like they used to [so if there’s an] assembly or they’re getting an award, you’re going to miss that. If the schools want to modernise, then the [parental] training has got to come with it.” (Erica Spry, Djarindjin community member, 2023)

The School is focussed on professional development for its staff, with some Aboriginal Education workers currently enrolled in university or TAFE courses, and some having completed a Diploma in Business. This has led to increased digital literacy within the community.

- ✦ “All of our [Aboriginal] staff here are training at University of Notre Dame [and developing digital] skills ... So people who are employed in particular jobs [at the school or clinic or DAC] where they use a computer are getting the hang of it.” (Sharon Le Ray, as above, 2023)

The Principal described the value of digital skills to expand students’ education and work opportunities.

- ✦ “[With] education, there’s also that self-esteem. They’re earning money and they become really responsible as parents.” (Sharon Leray, as above, 2022)

## The clinic requires quality communications for telehealth, records and client communications

The Lombadina Djarindjin clinic services both communities, with a staff of two full-time nurses, Aboriginal healthcare workers, a receptionist and security guard, as well as visiting specialists. Reliable communications services are essential to the clinic’s busy day to day operations, including communicating with clients and external health services, telehealth, and access to patient records.



Figure 14: Lombadina Djarindjin clinic

We heard that the new 4G small cell had not improved mobile coverage at the clinic, with continued reliance on satellite internet and a long-range wireless phone connected to the fixed line.

- ✦ “Here in the clinic we have reasonable internet for the office staff, but for [mobile] it’s terrible. [So] we have a cell phone that we use if we have to go out of community, but here we have a ... long range landline phone that we use because cell phones don’t work.” (Karolien McBride, Remote Area Nurse, Lombadina Djarindjin Clinic, 2023)

Previously, we heard about the challenges of contacting clients due to poor mobile reception, leading to primary client contact via house visits. This creates risks to health and safety of residents and clinic staff. While the new 4G small cell has improved mobile access for many Djarindjin households, the same issues still apply for clinic staff and Lombadina residents where coverage remains poor.

With mobile devices often shared or transferred within families, there can be privacy issues for service providers trying to contact clients via their mobile number.

- ✦ “[There are] lots of different confidentiality problems ... Amongst certain family groups, they don’t like you to humbug their family members.” (Annalisa Denholm, Remote Area Nurse, Lombadina Djarindjin Health Clinic, 2022)

A range of specialists visit the community at set times. However, telehealth is also used as an option to sending patients into town for medical consultations. While some clients use the opportunity of a trip to

Broome to do shopping or access other services, others prefer to avoid travelling to Broome or Perth for consultations or minor treatment.



“If you can’t get into Broome, and you need to do a consult, then [telehealth’s] an opportunity. [Now] you can see a doctor on the screen and he talks to you about your health issues and needs and [even use] a digital thermometer [to] see your temperature ... It’s like a medical consult without having to go to town. I think that’s a good cost benefit [for] the person [and] the service provider [and it’s more] comfortable in your clinic.”

– Erica Spry, Djarindjin community member, 2023

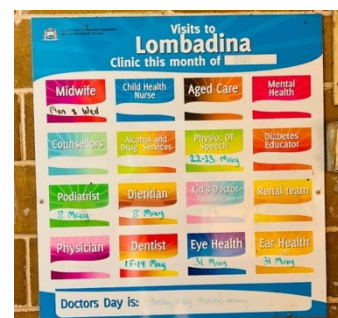


Figure 15: Noticeboard of visit dates for specialists

Telehealth sessions were described as generally reliable via Sky Muster, but affected by cloud or rain.

- + “We’ve just come out of the rain season. When it’s really bad weather we get really patchy and it jitters a lot and we don’t get good picture ... But on the whole it actually works well.” (Karolien McBride, as above, 2023)

While the clinic uses an online patient records system, it still keeps paper-based records due to connectivity issues and unreliability of access to online records, meaning work needs to be duplicated.

- + “[Our] records are [about] 50% on the computer and 50% on paper, which is a little bit frustrating ... We scan everything [and] keep the paper records, so that’s a big paper trail and a lot of storage.” (Annalisa Denholm, as above, 2022)

Natasha Fejo previously worked as receptionist at the clinic, which included providing digital support for clients to use online services, particularly older people.<sup>17</sup>

- + “The elders ... don’t have phones [or] access to a computer ... [So] I help them [get a Medicare number, by filling out] a form [and] scanning it to Centrelink ... [I help them with the My Gov] questionnaire [with questions] they don’t understand.” (Natasha Fejo, Receptionist/digital support, Lombadina Djarindjin Health Clinic, 2022)

Residents are more likely to trust information direct from a health practitioner. We heard that many people are reluctant to access health information online, which can be difficult to understand.

- + “If you Google stuff there’s a lot of very westernised terminology and wording that [is hard to] understand and it sounds more scary than it may need to be. [So out here people prefer] face to face.” (Karolien McBride, as above, 2023)

## Use of communications systems by police for regional delivery

The Dampier Peninsula police cover the whole Dampier Peninsula region, ranging from about 65 km north of Broome to Ardyaloon (One Arm Point) at the northern tip. As well as policing and justice services, the team provide emergency response for the region. The team varies from two to eight staff



Figure 16: Dampier Peninsula Multi-Function Police facility

<sup>17</sup> Natasha is now training as an Aboriginal health worker. At the time of our visit, the clinic was advertising for a new receptionist, with digital skills being one of the criteria.

at different times during the year. The multi-function police facility (MFPF), located beside the Djarindjin Roadhouse, was being refurbished during our 2022 visit. It has a 20 Mbps fibre optic connection to the facility, with phone services via the copper network. There are Cell-Fi mobile boosters in each of the staff quarters, however these were described as unreliable at the time of our 2022 visit. We were unable to get an update in 2023.

Court hearings are mostly conducted in person by a visiting magistrate. However court appearances can be undertaken via videoconference when needed.

## The Rangers use various communications technologies for land and sea management [2023]

The Bardi Jawi rangers, based in Ardyaloon, look after the country with and on behalf of the traditional owners. This includes weed and fire management, cultural site management, island and reef monitoring and management, beach clean-ups, animal and plant species monitoring and quarantine support.



Figure 17: Phillip McCarthy at the Bardi Jawi Rangers base in Ardyaloon

- + “We work with traditional owners [and] we’ve got partners with other groups as well, Biosecurity Australia, AQIS [Quarantine services], so we’re eyes and ears sometimes for potential aquatic [and plant] diseases that might come through and invade our country.” (Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023)

To do this work, they use a range of communications technologies, both in the office and when working remotely on land and sea, including to ensure safety.

- + “[We’ve got] a hell of a lot of communications [from] computers [and] phones to Navmans [in cars and] Spot trackers [for] safety. [We have] two survey vessels with all the modern technology on them [for] marine work [and] volunteer sea rescue ... We’ve got a sat phone [for use on] field trips [in] case there’s an emergency or an incident. We’ve got the UHF [with] dual bands, so we can use that for search and rescue to communicate with the vessels as well. (Phillip McCarthy, as above, 2023)

However we heard that the Sky Muster satellite service was insufficient for their daily needs.



*“It doesn’t keep up with our needs. [When] you’ve got to send reports, or even just [sending] text it takes a while just to get through. [At night] our computers [are] really slow to just even load, [even to open] my inbox just takes hours to load ... communicating with [accounts or] Kimberley Land Council sometimes becomes an issue.”*

- Phillip McCarthy, as above, 2023

The Rangers used to use a program called iTracker but now use the Fulcrum application on iPads.

- + “We record a lot of our stuff to Fulcrum [on iPads]. So we put programs in there, whether it’s weed program, or fish program, or whatever we’re doing ... and it gives us a lot of information, the place we’re going, the numbers of hours we’re working ... Fulcrum is pretty easy to get on. [If] you answer all the questions properly it’s really

easy. [And] it's set so that as soon as we come in, it'll just download automatically to our computer." (Phillip McCarthy, as above, 2023)

Philip McCarthy stressed the need for workplace training in the use of relevant digital technologies.

- + "Everyone trains; it's part of being a ranger. [We] do Certificate III and Certificate IV in Land Management [with digital] technologies to chainsaw, to using incendiary machines ... driving vehicles, using pumps, and so the training's full-on. [We do] proper training on Fulcrum [and use of] the drones and stuff like that, the cameras." (Phillip McCarthy, as above, 2023)

The Rangers use digital cameras and iPads for documentation, GoPro cameras for underwater filming of fish species and reef monitoring, and a recently purchased drone for aerial imagery.

- + "The guys are still [learning about the drone and where] to operate under CASA [regulation]. It's going to make the workload easier, whether you're mapping lands [or] monitoring for turtle tracks, mangrove monitoring, we can look over what damage of fires. We think it's extremely important, a very valuable tool." (Phillip McCarthy, as above, 2023)

The Bardi Jawi Rangers had been recording cultural fishing stories with elders when we visited.

- + "We've got a handful of elders left, so we're trying to record traditional stories on country ... about fish, the seasons ... before we lose all that [knowledge]. So we're using Fulcrum [on iPads] to record all this information from elders. We take them out for a day, spend a day with them, take entire families out if we can, and record them, and pay them for their time." (Phillip McCarthy, as above, 2023)

## **There is no banking service in Djarindjin, with online banking the only option [2023]**

Djarindjin AC have raised the issues of a lack of local banking services, with residents required to travel to Broome to set up or re-activate accounts. The only means of accessing cash in the community is the ATM at the store. With most transactions now via EFTPOS or online, reliable internet access is essential.

- + "Not many people carry cash ... everybody uses cards for everything, and use their phones to transfer money ... Without the internet being really good, it holds everything up [when] they can't do that ... They're really dependent on communications up here." (Daniel VanDerWel, Djarindjin Store, 2023)

Internet banking has reduced the need to go to a bank branch in Broome.

- + "The amount of times that people used to have to go into town to do any of their banking was just horrendous, so this actually makes life a lot easier for them. They're also able to pay each other back through [online transfers], which [means] that people don't have cash and are less likely to gamble. [So] internet banking's been a huge help." (Karolien McBride, Remote Area Nurse, Lombadina Djarindjin Clinic, 2023)

Most residents can now use internet banking, but some still seek assistance from agency staff.

- + "There are still a lot of people in community that don't use phones, don't use computers, they have other people do their banking for them." (Nathan McIvor, CEO, Djarindjin AC, 2023)

With ongoing demand for face-to-face support with banking, DAC are considering setting up a banking service amalgamated with the Centrelink office.

- + "We've been looking at ways of having bank tellers here in community as well. So, we could turn it into a position that's amalgamated with the post office [and] Centrelink,

with bank tellers, with digital inclusion, all that sort of stuff.” (Nathan McIvor, as above, 2023)

However, a key challenge with setting up or using internet banking or other online services is the need for identification, with many people not having a birth certificate or the multiple forms of ID required. State government agencies, including the Departments of Transport and Justice, visit the community twice a year to assist residents to access ID documents such as birth certificates and driver's licenses. However there were calls for more support and a user-friendly online application process.

- ✦ “It's hard [to] understand the forms ... People can't get work because they don't have a license [or the] 18 plus card. [Government agencies] come every six months. We want them to come ... once a month.” (Natasha Fejo, Receptionist/digital support, Lombadina Djarindjin Health Clinic, 2022)

DAC have been proactive in trying to address this issue, working with Broome Circle to set up a Community ID card for residents. They are working with banks and other services in the region to recognise this locally endorsed form of ID.<sup>18</sup>

## Access to media and news services

### Over a quarter of households are without TV services

The VAST direct-to-home satellite TV service was installed on all premises in remote communities by the Australian Government in about 2013, with the ongoing maintenance to be a householder responsibility. Under the Digital Switchover program, there was no funding allocation or planning undertaken for a coordinated maintenance program of VAST equipment for remote First Nations communities with community housing. The cost of satellite technicians, including travel, is often prohibitive for individual households.

In Djarindjin, the VAST satellite service is no longer working in 29% of households surveyed (up from 18% in 2022). This is typically due to failure of set-top boxes (82% of those with VAST not working) or damage to satellite equipment or cabling.

- ✦ Every person I speak to, they tell me they can't get TV because the VAST doesn't work properly [or] the set top box doesn't work [because of power surges.] And those boxes aren't cheap. They're 300 bucks for a box. [We have] third world conditions and people that are living below the poverty line and they don't even have access to frigg'in' TV.” (Nathan McIvor, CEO, Djarindjin AC, 2023)
- ✦ “It costs [hundreds of] dollars to get this little black box put in your house for your TV, to access TV channels. So, you couldn't even get normal TV in the houses here. You had to pay for that [box].” (Erica Spry, Djarindjin community member, 2023)

Due to the lack of functional VAST television services in many households, there is high uptake of streaming services such as Netflix or Binge. Some households get subscription TV services (mostly Foxtel), however monthly bills can be a cost burden.

- ✦ “We've got [Foxtel for] movies, sports ... That's \$160 a month [or more if we watch a movie or] book a sport. [And we've got Netflix] but we don't download anything.” (Audrey Shadforth, as above, 2023)

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<sup>18</sup> See ABC story: <https://www.abc.net.au/news/2023-07-09/wa-indigenous-residents-birth-certificates-new-id/102576814>

While the VAST failure rate in Djarindjin is lower than most research sites visited, Pilbara and Kimberley Aboriginal Media (PAKAM) recommend moving to digital broadcasting in larger communities. This would reduce maintenance costs to a single facility and ensure all television services – including 16 Freeview channels, ICTV and a community channel – are freely available without the expense of maintaining household VAST equipment. DAC also called for a return to local broadcasting.

- + “I remember when VAST came in and [they shut down the local] transmission room [which] was so much easier to operate. You didn't have to worry about individual dishes and moving things in the right direction. [TV should be] free to view [so] why can't we have transmission [back]?” (Nathan McIvor, CEO, Djarindjin AC, 2023)



“How come that's not resolved? [We need TV] to know what's going on in current affairs, say in Broome, in other towns or the state of WA, especially with the national referendum coming up ... how do we know about that if you can't even plug in a normal TV in your home out here and if you can't afford that [set-top] box ... You shouldn't be feeling isolated, you should be feeling connected to the whole of Australia as a part of the country.”

– Erica Spry, Djarindjin community member, 2023

A result of the lack of free-to-air television is an increased reliance on social media as a primary source of news. However, with a plethora of misinformation and disinformation on social media, it can be difficult to discern reliable news sources.

- + “[So people are getting news] from Facebook, or TikTok or Snapchat. It's just crap. If we're about getting information out [to] remote communities and remote outstations [then] TV is the way to go.” (Nathan McIvor, as above, 2023)

PAKAM are keen to ensure that VAST is working to access the PAKAM radio service through the VAST set-top box, as well as ICTV services, for which they are the primary contributor. PAKAM are also keen to have ICTV Play available as an unmetered download service in remote communities, due to containing significant language content and locally relevant stories. They are keen to explore the possibility of sharing ICTV and local content from a server via a Wi-Fi mesh network.

## The local radio service is important but there is limited home radio use

The PAKAM radio service is the primary First Nations radio service for 12 RIBS communities, with the service also sharing content to 10 regional towns and remote communities across the Pilbara Kimberley region. PAKAM coordinates a daily program of radio shows from contributing RIBS communities and regional radio stations, sharing news and stories within the region as well as to national audiences.

- + “[Despite] connectivity [issues], our principle for our network [is] to encourage live broadcast and input from the communities themselves [by] switching to live feed [from RIBS communities and] full-time Indigenous radio [stations] in the Kimberley-Kununurra, Halls Creek, Fitzroy Crossing, Derby [and Broome]. [We also share programs nationally on] the National Indigenous Radio Service [such as the] Sandy Dann [and] Mary G [shows].” (Neil Turner, General Manager, PAKAM, 2022)

Our 2023 survey in Djarindjin and Lombadina found 30% of respondents listen to the PAKAM service daily or weekly (28% occasionally) and 28% listen to ABC daily or weekly (27% occasionally), with 22% saying they never listen to radio. The most common way to listen to radio is through the car radio (67% of survey respondents), with only 12% listening on a radio at home. Other modes of radio access were via VAST satellite (14%) and streaming via phone or tablet (13%).

The sharing of live radio shows from RIBS communities over the regional PAKAM radio network requires reliable connectivity from the RIBS studio to the local hub. This was previously done via landlines but replaced by 4G or satellite connections in the late 2010s. However, PAKAM Manager Neil Turner found the Sky Muster satellite not reliable enough for radio streaming, and installed Starlink in all active RIBS studios in 2023. PAKAM has also set up remote monitoring of broadcast and studio equipment in each RIBS site, enabling equipment to be reset without needing to drive out to the community.

- + “We’ve already [been able to respond to] several incidents in the few weeks that we’ve had that system up and operating. ... [When services are down it] stops people from being able to work and earn [money] for their radio shows on the network.” (Neil Turner, as above, 2022)



Figure 18: Some people are streaming PAKAM radio via the PAKAM or indigiTUBE apps

There is a local RIBS studio in Djarindjin, which was relocated from the CRC to the community office in about 2019. There had previously been RIBS broadcasters over many years, including Trevor Ishiguchi and veteran broadcaster Bernadette Angus, providing daily radio shows from Djarindjin over the regional PAKAM network. There was strong community interest in having local radio active again.

- + “In the old days too, people [always listened to] ABC radio [and local] radio. Granny Bernadette Angus used [to] run a little one hour show out of Djarindjin [over the PAKAM network] and talk about the events of the days, of fishing, and play some of that deadly music ... It makes you happy and connected [in] your little community, and the surrounding communities [like] Ardyaloon, down to Beagle Bay. [It’s] a positive thing [which we should] revitalise [and] offer traineeships so that [the broadcaster role is] always filled.” (Erica Spry, Djarindjin community member, 2023)

While there was not a Djarindjin RIBS broadcaster in place during our two visits, PAKAM have since recruited a new Djarindjin radio broadcaster in June 2023, Petha Shoveller, as well as community video producer, Daryl Chaquebor. We look forward to meeting both during our next visit.

We also heard about interest in having a PAKAM radio broadcaster in Ardyaloon (One Arm Point) again.

- + “Nobody’s [working] at the BRACS<sup>19</sup> at the moment ... It’s almost a volunteer position [because] there’s not enough funds. [PAKAM should] try and get a full-time position there, because it’s a good thing. It’s another way to communicate with people.” (Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023)

PAKAM are working on developing more local journalism and local news production and sharing capacity. This is critical as there are limited mainstream news services in the region other than ABC. Currently, most news sharing is done informally within radio programs rather than as formal news bulletins.

## There is no funding to maintain the ABC service

Djarindjin community also has an ABC Broome FM radio service, which was working during our visit. However, as ABC radio is considered a self-help retransmission service, there is no funding to maintain the service. PAKAM helps maintain ABC services at their own expense where they can.

<sup>19</sup> BRACS stands for Broadcasting for Remote Aboriginal Communities Scheme, the former name for RIBS.

- + “[PAKAM has donated] our own second-hand transmitters as we’ve upgraded [them. We] try to maintain [ABC services] where it’s easy and convenient, but it’s certainly nothing we’re funded or obliged to do.” (Neil Turner, General Manager, PAKAM, 2022)

ABC FM services are no longer work in several Kimberley communities, including Ardyaloon (One Arm Point), with only a weak AM service available.

- + “We hardly get ABC here, [only now and then]. Vision [Christian radio] is [the] clearest [channel].” (Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023)

Relying on PAKAM having spare equipment for ABC services is not sustainable. Dedicated funding is required to ensure ABC services are available in remote communities.

## Social media is a key communications mode and source of news and entertainment

Our survey found that social media is popular for keeping in touch with family or friends (79%), engaging with community (76%) and meeting new friends or reconnecting with old friends online (73%). The most popular sources of news and information were direct and in person (49% daily), Facebook (42%), commercial TV (32%), ABC TV (24%), PAKAM Radio (21%) and online news services (21%).

Beyond voice and text communications, Facebook and other social media platforms are used as a primary mode of communications with friends and family, accessing news and information and sharing updates.



“They say if you’re wanting to know ... what’s going on in the communities, just look on Facebook ... The younger ones use Tik Tok, the older ones use Facebook ... [If] you can’t get in contact with that person [you] just look on Facebook, search his name up, you’ll know where she is, or he [and you can message them].”

– Audrey Shadforth, Centrelink office worker/ resident, 2022

- + “My personal use of Facebook is just to keep an eye on my family, my children, my grandchildren.” (Resident, Djarindjin 2023)

Social media platforms have become a primary means of accessing news and information, however First Nations radio remains a trusted source of locally relevant news.

- + “Facebook and all those sorts of things [are key sources of news]. Our parents and my staff are the first to know what’s happened in the world on their phones. [We also] have PAKAM radio [for local news. Sometimes students] are invited down there to speak [on radio].” (Sharon Leray, Principal, Christ the King School 2022)

Regional media organisation PAKAM use their Facebook page to share local news, events, language and cultural activities, and stories from across the region, augmenting their traditional media channels.

- + “We’ve got over 2,000 followers [on Facebook and get lots of] feedback on posts. [Our] three platforms, [radio], community TV and social media all support each other.” (Neil Turner, General Manager, PAKAM, 2022)

PAKAM are exploring TikTok and other platforms to share community-generated stories.

- + “The potential of content being created on phones and shared [immediately via social media is] bigger than our traditional ways of recording community television and getting it back to people. So [we’ll] be looking at Tik Tok, and [training] young people in content production without requiring the good quality cameras [and TV production equipment].” (Neil Turner, General Manager, PAKAM, 2022)

Digital communication is an emerging area for skills development and employment in communities.

## Use of websites and social media by local service providers

The Djarindjin community website (<https://djarindjin.org.au/>) provides an overview of the community governance, services, activities and accommodation bookings. DAC have set up a separate Djarindjin Campground website ([djarindjin.com.au](https://djarindjin.com.au/)), targeted at tourists, for campground bookings. DAC have a Facebook page, which the CEO administers.

- + “We’re utilising social media a lot [more and] getting a lot of exposure using digital media for Djarindjin and it really gets us out there, it gets the name out there, it gets what we’re doing, our business, all those sorts of things. And we get a lot of good feedback from our online presence.” (Nathan Mclvor, CEO, Djarindjin AC, 2022)

DAC also produces a monthly newsletter Djarindjin Djawal for residents and stakeholders, providing an overview of recent activities and job opportunities in the community. There is also a Facebook page for the Choosing Your Way learning program.

Lombadina community also promote their accommodation and tours, with online bookings available on their website (<https://lombadina.com/>).

Dampier Peninsula Police distribute information via social media, but see this as supplementary to face to face communications.

- + “We do use social media like Twitter [and] the Kimberley District Facebook page. I know a lot of community that surf Facebook ... read those messages. So there is some level of connectivity to the community through social media.” (Andrew Henshaw, Senior Sergeant, Dampier Peninsula Police, 2022)

## Affordability

### Rising costs for essential needs makes communications access more challenging [2023]

Most residents in Djarindjin are reliant on Centrelink payments as their primary means of income, including Jobseeker, age or disability pensions, and parenting and carer payments. The amount received through Jobseeker depends on age.

- + “When you’re 16 you only get \$300 [fortnightly]. If they’re over the age of 20 they get about \$700. [It has gone up a bit] because when I was on Centrelink two years ago I used to get \$500 a fortnight ... and that income wasn’t good for family. We were struggling ... Even on \$700, people are still struggling because of high costs.” (Audrey Shadforth, Centrelink office worker / resident, Djarindjin, 2023)

Due to its remoteness and freight costs, food, fuel and other essentials are very costly compared with regional towns or cities.



“The shops [in communities are] too expensive. [People] spend \$150 [for one food shop so our] weekly pay is gone by the end of the week. By Friday we’ve got no money left.”

– Audrey Shadforth, as above, 2023

The storekeepers acknowledged that affordability is an issue, with prices affected by freight costs.

- + “Baby formula went up in price [to] like 90 something dollars a tin. People [in a city] couldn’t afford that let alone someone living within community. [We try to keep prices as affordable as possible] but people [still] go without [some things] to get [basics] of food or flour [and] meat.” (Daniel VanDerWel, Djarindjin Store, 2023)

Rent is deducted from Centrelink payments, along with downpayments on outstanding fines or other bills paid using Centrepay, including power cards (pre-paid vouchers for household power). Power costs can be a significant cost, with some people having to go without power when credit runs out.

- + “They get the power out [of Centrelink payments too] for power card. It depends how much you want, \$10 right up to \$300 [for big households]. I only need \$100 a [fortnight for fridge and] air conditioner and stuff ... to save the power we’ve got to put all the air conditioning off in the morning and just at night use it.” (Audrey Shadforth, as above, 2023)

Rent is also a large expense item. While the average rent is \$120 for First Nations households (ABS, 2021) those on wages pay a higher rate based on income.

- + “Rent is a big one too because [my] partner [pays] \$400 a fortnight and I pay \$300. So there’s \$700 altogether [for one house].” (Audrey Shadforth, as above, 2023)

Costs of vehicles, fuel for trips to and from Broome, and repairs were raised as major expenses.

- + “To travel into [Broome] we got to pay \$100 fuel in and \$100 fuel back and then we’ve still got to put our car in the garage [which can be] \$600, \$700 [or more]. So sometimes we just leave the car there and then just pay [it off] slowly.” (Audrey Shadforth, as above, 2023)

This leaves very limited household income for pre-paid mobile phone vouchers, which are a high priority.

- + “I [also] have to pay for phone [recharge] and all that. [My husband] would pay \$30 [a month] and I would pay, what, \$30 every week. The kids use it too, you know.” (Audrey Shadforth, as above, 2023)



*“[My] fortnightly pay is \$720. [My biggest expenses are] food, fuel, clothes, everything [so] I’d be lucky to have some left over the next week just for [mobile] credit ... It’s pretty hard out here.”*

- *Marlon Sampi, Resident/ Co-researcher, Djarindjin, 2023*

## Affordability of mobile data and devices is a significant concern

Affordability of internet access is a key issue due to low incomes and high pre-paid data costs. 64% of respondents said that they sometimes cut back on essential household costs in order to afford personal or household internet within the past six months (up from 42% in 2022). However the number who always or often have to cut back had reduced from 21% to 7%. 80% said they compromise on speed and/or quality of their connection to prioritise affordability (up from 63% in 2022). The second most common reason given by regular internet users for why they don’t use the internet more often was “The internet is too expensive for me” (41%, up from 25% in 2022). 100% of low internet users gave cost as a reason.

Despite the high cost of pre-paid data and relatively easy access to a store in Broome to sign up for post-paid service, 97% of mobile phone owners reported having pre-paid services. Pre-paid services are preferred due to the flexibility of enabling people to purchase vouchers when they have the funds available, rather than committing to a monthly billed service which they may not be able to pay when it is due. For the same reason, only 5% of respondents said their household had a post-paid nbn Sky Muster or ADSL service, and only 8% of those with 4G modems had post-paid.

With the cost of Telstra pre-paid mobile vouchers having increased in mid 2023, the most commonly purchased recharge vouchers have gone up from \$30 to \$35 (with data allocations increasing from 10 GB

to 15 GB). While a relatively small increase, there were concerns that this would add more pressure to household budgets and increase reliance on the Wi-Fi hotspot.

- + “If the [price] goes up you’re going to have more kids here [for the free Wi-Fi and possibly more social issues]. Everyone will [only be able to afford] \$20 ... or \$10 ... sometimes I just buy \$10 [to use] for internet at home.” (Audrey Shadforth, Centrelink office worker / resident, Djarindjin, 2023)

The storekeepers observed that the price rise may lead to some people buying a lower priced voucher, with higher costs per gigabyte of data.

- + “[When people ask for] a \$30 card [but we’ve only] got \$40 ones or \$20 [available] they’ll go down but they won’t get the \$40. [The rise to \$35 will affect] a lot of people ... They know they can afford that \$30 out of their pay every week [so] it may be an adjustment for a while.” (Dannielle VanDerWel, Djarindjin Store, 2023)

The cost of device replacement is also a challenge for many residents, especially with high turnover of phones. However, the store removed low-cost phones with limited functionality based on community feedback.

- + “There was some very, very cheap ones [that] all they could do was make a call [so we] scrapped [these]. Our cheapest one at the moment’s \$249 ... for an Oppo, and then they go up from there. [The] feedback from the community [was] we want something [that can be used for] Facebook or banking needs, [because people] do everything from their phone. [So we try to make it] a bit cheaper [but not] obsolete in another month.” (Dannielle VanDerWel, as above, 2023)



Figure 19: Some mobile phone and modem options in Djarindjin Store

Most children want phones now, mostly for streaming of media content and playing games, increasing the household cost of devices and data use.

- + “The kids are always on their phones watching videos or games ... Even the younger kids now ... That’s all they want, is their own phone, so they can watch their own videos and clips.” (Daniel VanDerWel, Djarindjin Store, 2023)

## There is low uptake of post-paid services, partly due to previous negative experience [2023]

While post-paid services are more cost-effective for households with high data usage, there is an apparent wariness about post-paid plans following bad experience of high bills due to excess data usage. Also, several Djarindjin residents were victims of previous mis-selling practices at the Broome Telstra store, where they were up-sold post-paid plans bundled with devices (mobile phones, iPads etc) that they could not afford, resulting in significant debt. Following an ACCC Inquiry into the issue several Djarindjin residents received compensation payments from Telstra.

The Djarindjin CEO described the previous experience of some residents who were signed up for bundled mobile contracts for two to three years.

- + “They end up paying hundreds and hundreds of dollars and they [often] didn’t have the budget for it in the first place. ... And if your phone [breaks] you still have to pay off your phone. So it just becomes a massive impost for people in community.” (Nathan McIvor, CEO, Djarindjin AC, 2022)

Telstra no longer sell bundled plans, with devices now sold separately. However, some providers still advertise bundled plans, and monthly payment plans for devices can still lead to financial issues.

## Affordability of household power impacts on food security and communications

Affordability issues in communities extend beyond access to communications. All residential houses in WA communities have smart meters with online or EFTPOS payment at the store to top up household power. This has reduced the need to purchase power cards but requires reliable internet access.

- + “Horizon Power [recharge is now paid] through the POS [point of sale] system [and] goes straight to their meter. [But] if the internet goes down [at the store], we can't put power on for them. They could be sitting at home; the lights are gone off and no one can get electricity 'cause we haven't got internet. [They can pay] on an app as well, but a lot of people, [especially] older ones [prefer to come in here to pay]. Even some of the younger ones [prefer to] pay from here ... maybe they're a bit more wary of putting their card details in their phone.” (Daniel VanDerWel, Djarindjin Store, 2023)

If residents do not have funds for power recharge, this leaves the house without power to run fridges, air conditioners, or run powered communications services such as satellite modems, televisions or Wi-Fi equipment. Food stored in fridges can go off if power remains off for an extended period.

The lack of reliable power and large shared households means that people are unable to store food or buy items in bulk, increasing the cost of food.

- + “A lot of the people haven't got reliable power ... some people come in and put \$10 power on and I think, how long's \$10 power last? [If people had reliable refrigeration they could buy in bulk in] Broome [and] probably get twice as much for half the price. [But] they're stuck paying higher prices [at the store] every day [because] of the power.” (Daniel VanDerWel, as above, 2023)

While most people use mobile phones for calls and internet access, they may not be able to charge mobile phones when they are without power. This can leave households without any means of communications and reliant on other households or public phones or local services where available. Having an accessible USB charging station available in phone boxes or the meeting shelter by the store would help reduce this issue.

## Digital Ability

### Demand for ICT support and training

With services increasingly moving online, digital literacy is becoming a necessary life skill. Our survey found improved levels of digital ability since 2022, with 99% of respondents having used the internet within the last three months (up from 89% in 2022). Of these, most respondents reported being able to send and receive emails (76% said 'very true' or 'mostly true'), find and install apps/software (82%), connect to a Wi-Fi network (84%) and complete online forms (74%). Of the 99% of regular users, most had used online banking in the last six months (91%), accessed government services (83%), done online learning or study (73%) and done online shopping (67%).

Digital literacy enables personal agency and capability to access online information and services independently, undertake online learning and access services directly rather than being reliant on others.



“[Some] training should come in to teach people [to use] MyGov [or skills for] work roles for jobs or if they're minding a child or the child is shifting care [and] having an email set up as well. The old mail system is there but everybody likes it all online.”

- Erica Spry, Djarindjin community member, 2023

Within Djarindjin, digital skills development has been constrained by the lack of home internet access and limited skills development and support options. We heard calls for more training and support, especially for the elderly, people with disability, and those with low English and digital literacy.

- + “I worry about my elderly ones ... my grandmother [would ask me to buy a recharge voucher and] I’d have to go on the phone and put that credit in [so] she could make her phone calls. You get a lot of the young mob working with the old people to help them to get on the phone [or banking or things].” (Erica Spry, Djarindjin community member, 2023)

However, training and support for elders and digitally excluded groups is usually best delivered in person by local providers using culturally appropriate methods and resources.

- + “[A lot of training and resources are] culturally blind. [Providers] need to [listen] to the Indigenous voice and what they want, because they like things simple, [relevant, with not] too much writing. [They prefer] pictures that show [what to do].” (Sharon Le Ray, Principal, Christ the King School, Djarindjin 2023)



Figure 20: Elder Bernadette Angus activating her new mobile phone. There is demand for ICT training and support for elders

While digital ability is very high among young people, some interviewees raised the negative impacts of heavy online engagement with reduced participation in social and cultural activities. This has noticeably increased since the installation of the new 4G small cell tower.

- + “Yeah, definitely. Everyone’s on their phone most of the time. [There’s] less socialising.” (Sarah Ougham, Djarindjin Aboriginal Corporation, 2023)
- + “You see kids walking around here just looking at their phones [and] whole families sitting together not even talking to each other at all, [just] looking at their phones. [Kids] are spending a lot more time [on] their phone or their PS4 or their Xbox [and] not doing things outside.” (Nathan McIvor, CEO Djarindjin AC, 2023)

## Community access computer facilities are needed for digital skills and internet use

There is limited access to computers in Djarindjin, with a smartphone often the only means of internet access. Our survey found that of the 99% of regular internet users (those who used the internet in the last three months), 93% said they use their smartphone as their primary means of internet access, with only 25% saying they had also used a computer.

Most households don't have computers or laptops due to cost and limited availability, making provision of community access computers necessary for digital skills learning such as keyboard skills, MS Office applications, and online services. There was demand from community members for a space for online learning, videoconferencing, research, printing and enterprise support.

- + “I’ve been asking for more training for skills for the computers and everything. Because I haven’t got that much ... Sometimes [DAC arrange for trainers] to come out or [pay for you] to do it in Broome.” (Audrey Shadforth, Centrelink office worker / resident, Djarindjin, 2023)

While there is a community access computer and support available in the Djarindjin Centrelink agency and DAC office, these are provided for use of government services only.

- + “[People] ask [to] use the computer [so I help them] check their emails and stuff [if they] haven’t got phones. [But] nobody can use the [Centrelink computers for personal use].” (Audrey Shadforth, Centrelink office worker / resident, 2022)

Previously the Community Resource Centre (CRC) provided access computers, however these were removed in 2019 due to their age and concerns about access to inappropriate content by young people.

- + “Back in the day [the CRC had] computers for people to use [but] most people now have got their phones [or] tablets to do their banking or whatever it is that they want to use it for. [We] still have a computer and a laptop for people to utilise [at the CRC] or they come here [to] use the Centrelink [or] office computer.” (Nathan McIvor, CEO, Djarindjin AC, 2023)

The CRC was re-purposed as a local enterprise facility, including a facility to print locally branded merchandise (thongs, hats, t-shirts, mugs) and a café. While the CRC still has one computer available for community use, the re-purposing of the CRC was described as a loss by some people.



Figure 21: The CRC has been repurposed as a local enterprise printing facility, with one community access computer

- + “The kids [were] going there after school doing mathematics [and] the adults [learning to do] internet banking and Microsoft Word [to] write a letter ... but it's stopped. I don't know why.” (Natasha Fejo, Receptionist / digital support, Lombadina Djarindjin Health Clinic, 2022)

Some interviewees called for the CRC to provide community access computers and support again.

- + “[The] CRC [should help] people [with their digital needs. I] find it hard when you're working off your phone, and if you don't have a computer, where do you print the stuff [so you can] read contracts and [sign and scan documents].”

- Resident, Djarindjin 2023

- + “There need to be holiday programs where people are coming up with digital learning and opening up [the] CRC [for young people to develop skills and learn] gaming and Minecraft [and Scratch], things that lead to a really good outcome ... The kids are really great at it, and I just don't want them getting left behind [once they leave school].” (Sharon Le Ray, Principal, Christ the King School, Djarindjin 2023)

There are plans to set up a new training centre in Djarindjin to deliver the Choosing Your Way literacy, learning, numeracy and digital skills training, however the site is yet to be finalised. In the interim, the Choosing Your Way program is being delivered by in-house and by visiting trainers at the DAC office, with adult Bardi Language courses now being delivered at the school (outlined below on page 43).

## Digital mentor roles would help provide digital support and local jobs

Digital skills development tends to be demand-driven, with people keen to learn as they need to undertake a particular task such as accessing MyGov, doing online banking or completing a form. Peer

learning is an effective means of learning digital skills both within the home environment and by service agency staff.

As outlined in the Service Delivery section above, some support is provided by local Centrelink and DAC staff for people needing help to use online services, including MyGov and online banking, as well as activation of new mobile phones and SIM cards. However, the lack of dedicated digital support had increased pressure on staff in local agencies to provide generalised support in using online services.

- + “[Many] don't have phones or internet to download MyGov and they struggle with the reading and understanding [of] questionnaires. [People] come [to the clinic for help].” (Natasha Fejo, Receptionist / digital support, Lombadina Djarindjin Health Clinic, 2022)
- + “We do offer [help but don't have time to] show someone how to download an app and how to use it. [We need a service to] provide one on one time to teach people how to use digital.” (Annalisa Denholm, Remote Area Nurse, Lombadina Djarindjin Health Clinic, 2022)

There were calls for a dedicated digital mentor role within the community to reduce demand on agency staff. Consideration could be given to seeking funding for a male and female digital mentor to provide general support with computers and mobile devices, software and applications, cyber-safety and scam awareness, and helping residents choose appropriate services or plans to reduce phone and data costs.

## Use of digital tools for workplace learning

Digital skills are increasingly needed for many jobs, including in remote communities such as Djarindjin and Lombadina, where local tourism and enterprises provide an opportunity for employment. However, most people are mobile-only users and may not have the digital skills required for workplace applications.



“A lot of people ... don't have the skills [for jobs requiring computer use] to so they end up doing labour or just go without work. [If I had more digital skills I would] get into admin, more [of] that kind of work behind a desk. [We need more training here and] access to computers.”

– Marlon Sampi, Resident/ Co-researcher, Djarindjin, 2023

Training options in the Kimberley region include Kimberley TAFE, which provides certificate courses in business and workplace digital skills. However it can be challenging to get participation in formal training.

- + “Sometimes [Koolari CDP or DAC] have services come up to do some training. I know they started some digital courses but people didn't turn up. So they've got to actually have a viable number [for] TAFE to come up [deliver training].” (Sharon Le Ray, Principal, Christ the King School, Djarindjin 2023)

The School curriculum includes digital training, which helps prepare students for local jobs.

- + “Having digital [skills] is really important [to] know how to make bookings, [to] read the weather and all those sorts of things that are aligned to their jobs. [Our former students] now work on various financial spreadsheets [and] pay all the bills in the school. [A former student now works with] the garage and community office [where she is] paying all the bills.” (Sharon Leray, as above, 2022)
- + “[Some staff use] Word and Excel much better than what I can. One [staff member] uses her phone [to] respond to Excel spreadsheets and PDF's and ... sign them on her phone ... she's quite skilled in that space.” (Nathan McIvor, CEO, Djarindjin AC, 2023)

DAC have established an innovative adult literacy, learning, numeracy and digital skills program called Choosing Your Way, with Federal Government funding.<sup>20</sup> This involves using digital applications, including Virtual Reality (VR) technology, to train people in specific tasks needed for local jobs. DAC are working with Murdoch University and Trainwest to develop individual learning programs, with A Choosing Your Way mobile app being developed by Blue Sky Labs in Perth. DAC also worked with Perth-based company Sentient to develop a training program using VR technology, with self-paced learning modules for workplace tasks such as helicopter re-fuelling, vehicle servicing, stocking shelves and pricing goods in the store. DAC had purchased eight VR goggles for self-paced learning.

- + “[If they are] interested in working at the airport and ... become a refueler, we can [use] the VR technology [to outline the role and teach the skills needed] ... then when we move you over to the airport, you’ll have a very good idea of how it’s actually done.” (Nathan Mclvor, CEO, Djarindjin AC, 2022)

However, during our 2023 visit we heard that there had been limited VR training outcomes to date, with most adults preferring on-the-job training.

- + “The VR [training will be developed] in the next two to five years ... but for now it’s not really the right application. [It’s] probably more geared towards the kids at school than for adults. [Adults mostly] learn on a job, [not] through VR. [So] the digital skills side [is] still in progress.” (Nathan Mclvor, CEO, Djarindjin AC, 2023)

DAC are also planning to establish a training centre for delivery of adult learning and digital skills and support people to develop specific workplace skills as well as the technology needed for roles.

## Online platforms are being used for Board papers and records

In 2019, DAC moved away from printing Board documents to using an online platform called Diligent to distribute Board papers such as minutes, agendas and other documents. This has helped reduce Board papers from up to 400 pages per Board member each month. The Directors have been trained in using the app on an iPad to access and read the Board papers.

- + “So all our Board minutes, agendas, attachments [are on] the iPad, and [Directors mark their own Board papers if they need to. ... it’s probably been the single-most beneficial thing for the organisation because it cut down on so much administration [and paper] that we were using.” (Nathan Mclvor, CEO, Djarindjin AC, 2022)

As digital literacy is not as high for some elders, the use of this technology may be challenging for some people. However, there appears to be growing familiarity with the use of iPads by Board members.

## Cyber safety and scams a significant concern, with training and awareness required

Interviewees described a range of cyber-safety issues prevalent in the region from online bullying and harassment, access to inappropriate content, scams and social media comments leading to family disputes. Some people described the impact of inappropriate use of social media.

- + “[People say a] lot of things [on Facebook and make] trouble ... It’s a bad thing for us.” (Audrey Shadforth, Centrelink office worker/ resident, 2022)

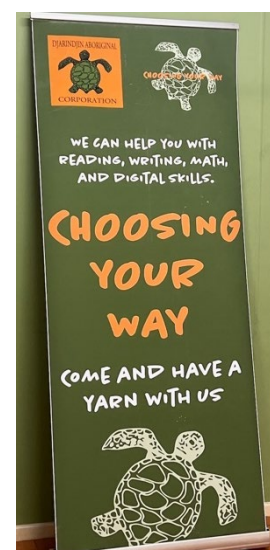


Figure 22: Banner for the Choosing Your Way program

<sup>20</sup> See Delivery model at: [www.djarindjin.org.au/wp-content/uploads/2021/07/0621-Milestone-3a-Pilot-Delivery-Model-for-Choosing-Your-Way-FINAL.pdf](http://www.djarindjin.org.au/wp-content/uploads/2021/07/0621-Milestone-3a-Pilot-Delivery-Model-for-Choosing-Your-Way-FINAL.pdf)

- + “People say things [online] and then people react, the next minute there's big rips ... It's like that side of the Facebook thing, Snapchats or whatever [can be] really negative [and impact on people's mental health and our community].” (Resident, Djarindjin, 2023)

Our survey found that cyber-safety awareness had improved among respondents since 2022. Most people know how to set and manage secure passwords (77% said ‘very true’ or ‘mostly true’, up from 67% in 2022), identify which apps/software are safe to download (73%, up from 66%), adjust privacy settings (73%, up from 63%), manage and decide what personal information to share online (77%, up from 62%), and check if information was trustworthy (70%, up from 63%).

Scam calls, texts and online messages are becoming more commonplace, with limited awareness in the community of how to discern and avoid them.



**“Scams are common experiences for people in this area ... We hear anecdotal stories of romance scams or finance scams, funeral fund scams and so on that really impact our communities.”**

**- Neil Turner, General Manager, PAKAM, 2022**

We also heard about control of phones within relationships and harassment of, with mobile phones available at the safe house for women seeking refuge from domestic violence.

- + “[Sometimes women have a] perpetrator ringing and harassing them and swearing at them [over] the phone ... But they're letting it happen [instead of blocking the calls].” (Resident, Djarindjin 2023)

While the school provides cyber-safety awareness within the school, there were calls for this to be available more broadly to the community.

- + “What we find is that the children up here have access to a mobile phone at a very, very early age and they're not monitored. And so they're watching a lot of things that they shouldn't be watching. [We've seen] a lot of bullying going on and trolling and all that sort of thing ... More education about digital citizenship and cyber safety [is needed in the community].” (Sharon Leray, Principal, Christ the King School, 2022)
- + “I honestly believe that there should be [more cyber-safety awareness]. Because these young mob [are] on Facebook 24/7 [and kids are] sleeping with the phone.” (Resident, Djarindjin, 2023)

In 2023, there were cyber-safety awareness workshops covering scams and elder financial abuse run in Djarindjin by Kimberley Community Legal Service through DAC's Home and Community Care team.

- + “They've actually had one or two community information days or afternoons about cyber-bullying and scammers and things like that. [I suspect that] people were getting scammed all over the place, with the lack of education.” (Sharon Le Ray, Principal, Christ the King School, Djarindjin, 2023)

Elder financial abuse is an issue in many communities due to elders sharing bank details with family members to get support with using online banking. As mobile devices are typically used to store personal information such as bank account details, sharing of devices can also lead to the potential risk of another person accessing someone's bank account and transferring funds.

## Local digital media production, archiving and cultural content

### Bardi language workshops are being run at the school, with calls for online training

A Bardi language course is being run for students at the school by Vincent McKenzie. This was expanded to Bardi adult language classes at the school from mid-May 2023, open to local residents and staff in the community. We heard calls for the language training to be available online for those not living locally.

- + “And over at the school here, we’re trying to revitalise languages [with Vincent] teaching Bardi language. I’ve been trying to humbug him to do online languages classes so that us mob stuck in town can learn the language, so we can revitalise it and teach it [to] the young mob.” (Erica Spry, Djarindjin community member, 2023)

### Demand for digital language and cultural production for language and cultural maintenance

With elders concerned about growing cultural and language loss, there is some demand for language and cultural recording projects. There are several cultural organisations in the Kimberley region undertaking cultural heritage, recording and archiving activities including Kimberley Aboriginal Law and Cultural Centre (KALACC), KLRC (Kimberley Language Resource Centre), and Bardi Jawi Rangers.

First Nations media organisations PAKAM and Goolarri Media Enterprises have a strong history of producing language and cultural heritage videos and radio content across the Kimberley region.

- + “We’ve recorded a Mowanjum Arts Festival [and] anniversary celebrations for Mangkatja Arts and Warmun Arts. [and two major] Songlines on Screen productions [for] a national audience ... Through the ICTV ‘Bedtime Stories’ commissions, we’ve [produced ten stories] in the languages of the Pilbara and the Kimberley. [On] radio, we’ve got words of the day going for Nyul Nyul and Yawuru and Walmajarri. [But because] our audience area covers so many different language groups [we don’t do regular] language radio programming.” (Neil Turner, General Manager, PAKAM, 2022)

Goolarri Media have made several series for NITV, including the ‘Catch and Cook’ bush tucker series. The Bardi Jawi Rangers are keen to produce this type of content in the Dampier Peninsula.

- + “That was [a great show], they still [play it on ICTV]. We’d like to do that ourselves. [There’s so many] good stories out there. [We also want to do a radio story about our burning work or] some of the activities we do [with PAKAM or Goolarri Media].” (Phillip McCarthy, Bardi Jawi Rangers, Ardyaloon, 2023)

PAKAM are keen to produce more language and cultural projects across the region for radio and television, including in Djarindjin and Lombadina. This includes historical stories with archival content to educate students about Australia’s colonial history. PAKAM Manager Neil Turner believes that an important role of First Nations media is truth-telling, especially with Treaty processes underway in SA and Victoria. PAKAM is also looking into creating podcasts and radio documentaries to provide more in-depth stories for radio that can be shared online, archived and have a longer life than live radio shows.



Figure 23: Mural on the wall of Christ the King School

## 05. CONSIDERATIONS FOR LOCAL DIGITAL INCLUSION PLAN

Developing a local Digital Inclusion Plan would enable a coordinated whole-of-community approach to address some of the challenges outlined in this report. It would also provide a useful tool for advocacy to government, industry, and fundraising efforts. Strategies outlined below are based on input from community stakeholders and are provided as possible options for local planning to improve communications services and digital inclusion in Djarindjin and Lombadina. These are not intended to be prescriptive, nor are they listed in order of priority.

Based on our 2023 interviews and discussions, the proposed Digital Inclusion Plan has been updated with new/revised strategies and a column for Progress/ Next Steps, to track progress on the actions over time.

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
<b>Access</b>			
<b>Expanded mobile coverage:</b> New Telstra 4G small cell not providing coverage to some Lombadina and north-western households	Discuss options with Telstra for increased small cell coverage to Lombadina and households with low signal, such as increased tower height or boosters	Djarindjin Aboriginal Corporation (DAC) Lombadina Aboriginal Corporation (LAC) Telstra	<i>DAC have undertaken some vegetation clearing, will follow up with Telstra</i>
<b>Free Wi-Fi hotspots:</b> Continue provision of free community Wi-Fi access	Continue provision of free nbn Wi-Fi services at Djarindjin and Lombadina offices beyond nbn funding periods (31 December 2024 for CII service in Djarindjin; 31 December 2025 for STAND services in Djarindjin and Lombadina) to ensure ongoing online service access	DAC LAC nbn co	<i>DAC have committed to maintaining free community Wi-Fi at the office and roadhouse  nbn reviewing continuity of CII Wi-Fi service beyond 2024 (may ask if local organisation wants to maintain the ongoing operations from 2025)</i>
<b>Community-wide Wi-Fi:</b> Expand Wi-Fi to residential areas in Djarindjin & Lombadina to address low household broadband access, high cost for pre-paid mobile data	Consider applying to WA Government / RCP for community wide Wi-Fi Mesh network (like Kalumburu & Mowanjum)  Alternately, lodge expression of interest with nbn for future rollout of community Wi-Fi mesh (as in Warakurna)	DAC LAC WA Government (DPIRD) Australian Government (RCP) nbn co	<i>No progress as yet (DAC have concerns about providing a free Wi-Fi service that may not be sustainable beyond 7-year funding period)</i>

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
<p><b>Community access computers:</b> Demand for community access to computers and peripherals (printer, scanner, videoconference facility etc) to support community needs, due to limited household computer equipment</p>	<p>Review computer access options for diverse community needs - digital learning / keyboard skills, access to online services, research and remote learning, meetings, youth activities, enterprise development, document (e.g., posters, funeral notices / booklets), media production, archive access.</p> <p>Apply for additional computers through CRC network or Device Bank</p>	<p>DAC Community Resource Centre network (WA Government)</p>	<p><i>DAC currently have one computer available in Community Resource Centre for community access, as well as a scanner and printer</i></p> <p><i>DAC seeking to establish another facility to deliver Choosing Your Way digital skills training (may provide computer access and support)</i></p>
<p><b>Workplace training facility:</b> Facility needed for delivery of Choosing Your Way training, including digital skills training</p>	<p>Review options of suitable spaces for computer access and support where needed to meet the range of identified needs. (Note: DAC has plans for establishing a training centre, including with computers and VR equipment for workplace training</p>	<p>DAC</p>	<p><i>DAC exploring funding options to build or refurbish a training facility</i></p>
<p><b>Starlink trials:</b> Need for fast, low latency broadband for some community facilities, services and enterprises</p>	<p>Consider trial of Starlink low earth orbit satellite services for facilities without a suitable broadband connection (i.e. fibre optic to DAC office, nbn Sky Muster or 4G broadband)</p>	<p>DAC LAC Lombadina Djarindjin Health Clinic</p>	<p><i>DAC considering use of Starlink at Roadhouse and Airport</i></p> <p><i>The clinic may consider use of Starlink following transfer of management</i></p>
<p><b>3G Switch-off:</b> Devices may be impacted by Telstra 3G switch-off on 30 June 2024</p>	<p>Check that all 3G only mobile phones, boosters and telemetry equipment etc are upgraded;</p> <p>Advise community members to check older phones can still make 000 calls (check using Telstra sms service 3 to 3489)</p>	<p>DAC LAC Telstra</p>	<p><i>Yet to do</i></p>

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
<b>Affordability</b>			
<b>Consumer awareness:</b> Primary use of pre-paid for data, leading to high household cost; limited awareness of new mobile or satellite plan options.	Provide easy-to-read materials in store (posters, brochures) and radio messages outlining options for more affordable mobile and data services via Telstra and nbn fixed line retail service providers	Telstra, nbn retail service providers Djarindjin store/ roadhouse PAKAM radio	<i>Yet to do</i>
<b>Student broadband needs:</b> Low household broadband access for school students due to cost of post-paid services	Encourage families of school students to apply for School Student Broadband Initiative (SSBI) (provides 12 months free nbn Sky Muster service)	DAC Centrelink PAKAM	<i>Yet to do</i>
<b>High Device Turnover:</b> Replacement of devices multiple times a year is common due to phone or screen damage and lack of cases	Ensure mobile phone cases are available in store-roadhouse to match stocked mobile phones, particularly high-priced models. Encourage customers to buy a case	Djarindjin Store and roadhouse	<i>Yet to do</i>
<b>Recharge stations:</b> Mobile phone battery power may run out if households are without power due to inability to purchase recharge vouchers	Providing USB charging stations in phone boxes and / or the meeting shelters would provide a backup location for charging mobile phones to ensure connectivity	DAC Telstra	<i>Yet to do</i>
<b>Digital Ability</b>			
<b>IT Training and Support:</b> Need for more regular IT and mobile use training, and cyber-safety awareness, particularly for seniors and other target groups.	Provide more regular digital skills development especially for elders, people with disability and others needing support	DAC Djarindjin CRC Kullarri CDP (KRCIC) Kimberley TAFE Kimberley Community Legal Service WA Government Broome Circle	<i>DAC looking to provide more regular and ongoing training and support.</i>

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
<b>Cyber-safety and scam awareness:</b> Concerns around cyber-safety issues, especially on social media.	Run culturally informed and targeted cyber-safety and scam awareness campaign (including on radio and social media, in schools, and for elders).	DAC LAC Broome Circle Office of eSafety PAKAM	<i>Community scam and e-safety workshops run by Kimberley Community Legal Service. More workshops and support needed</i>
<b>Digital Mentors:</b> Demand for mentor support for use of government and online services when needed (currently provided unfunded by DAC, clinic and other local agencies).	Employment of a digital mentor, possibly based at Centrelink office or CRC, to support people to use government, banking and online services and apps, phone SIM activation/recharge, ID requirements etc	DAC Services Australia CRC	<i>Yet to do</i>
<b>Workplace Digital Skills:</b> Demand for job readiness digital skills training to improve employment options	Incorporate digital skills training into workforce readiness training and on-the-job training by local agencies as needed	DAC Kullarri CDP (KRCIC) Kimberley TAFE Employer agencies	<i>DAC run Choosing Your Way workplace training program. Rangers, clinic and other agencies do on-the-job training</i>
<b>Access to media services</b>			
<b>TV Services failure:</b> VAST direct-to-home satellite TV services not working in many homes; high cost for households to repair VAST equipment and replace set-top boxes	Advocate for funding to upgrade or install VAST satellite services and/or replace VAST set-top boxes in homes where not working; Install shelf unit and surge protectors for set-top boxes  <u>OR</u> Consider cost-benefit of switching to local broadcast of TV services (including ICTV), to improve reliability and reduce ongoing maintenance costs	DAC / LAC Australian Government (DITRDCA) PAKAM	<i>No funding program yet for VAST equipment upgrades or for communities to switch to local broadcast model             (Note: DITRDCA currently have an Audit group for remote and regional TV services to review future of VAST services in remote communities)</i>
<b>ABC Radio not working:</b> No funding to maintain ABC radio service in Djarindjin	Advocate for funding to upgrade ABC re-transmission equipment (currently old PAKAM transmitter) and provide annual maintenance	DAC NIAA ABC PAKAM	<i>No funding as yet.</i>

Identified issue	Possible actions	Potential stakeholders	Progress/ next steps
<b>Support for digital media:</b> Interest in digital media production, music recording	Explore opportunities for continued development of digital media and music production beyond school-based learning and projects	DAC PAKAM Christ the King School	<i>PAKAM's digital media and music training and projects will increase with a new community video producer employed in Djarindjin</i>
<b>Digital archives:</b> Interest in having access to locally relevant media and archival content	Identify existing digital archives of locally relevant photos, videos, stories, oral histories, music and arrange community access via online platforms  <i>Note: State Library of WA have online archives, PAKAM audio-visual content on Mukurtu platform, KALACC and KLC are also have regional cultural heritage archives. Local content also on ICTV and indigiTUBE platforms</i>	DAC LAC PAKAM KALACC KLRC State Library of WA	<i>Support for local access needed to these collections</i>

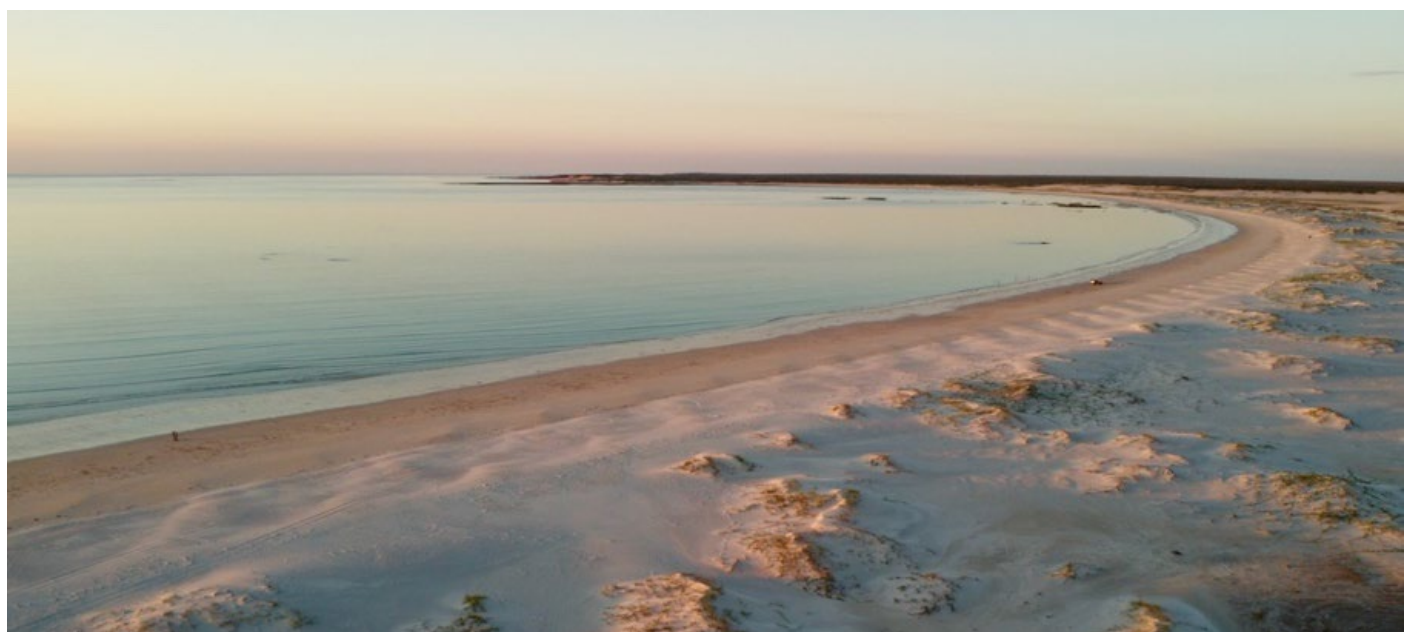


Figure 24: Coastline in front of Djarindjin and Lombadina

## Appendix 1: Summary of survey results

Note: Surveys undertaken in 2022 included 4 of 95 non-First Nations respondents, whereas 100% of the 69 respondents in 2023 were Aboriginal. Please note this difference when making comparisons between the two sets of results. Not all respondents answered all questions so percentages are based on the number of respondents to that question.

*Note: Results for some questions are potentially inaccurate due to possible confusion over technology types or options referred to in questions. These are marked with an asterisk(\*).*

Demographics	2022 (95 respondents)	2023 (69 respondents)
<b>Gender</b>	56% female; 44% male	65% female; 35% male
<b>% Aboriginal</b>	96%	100%
<b>Education</b>	21% up to year 12 40% year 10 or below 15% with tertiary education (certificate, diploma, degree)	13% up to year 12 47% year 10 or below 12% with tertiary education (certificate, diploma, degree)
<b>Employment</b>	59% employed or on CDP (60% of these full-time) 26% unemployed 7% retired / on a pension 31% looked for work in past month	46% employed (58% of these full-time) 32% unemployed 46% looked for work in past month
<b>Welfare</b>	56% received Centrelink (primarily Family Tax Benefit and JobSeeker / Youth Allowance)	75% received Centrelink (primarily JobSeeker and Family Tax Benefit)
<b>Housing</b>	16% in multi-generational or shared households (4.2 people per house)	28% in multi-generational or shared households (4.2 people per house)
<b>% with long-term disability or health condition</b>	19%	9%
<b>% who speak a language other than English at home</b>	62%	52%
<b>ATSI Languages spoken (multi-choice question)</b>	67% Bardi 15% Kriol 3 other languages spoken	65% Bardi 20% Aboriginal English 7% Aboriginal Kriol 6 other languages spoken
<b>Understanding of English (very and quite well)</b>	Spoken English: 98% Written English: 97%	Spoken English: 100% Written English: 100%
<b>Average weekly household income</b>	\$714.06	\$725.28
<b>Income breakdown</b>	58% \$1-\$399 14% \$400-\$999 22% \$1000-\$1999 6% above \$2000	42% \$1-\$399 38% \$400-\$999 12% \$1000-\$1999 8% above \$2000

Phone use	2022 (95 respondents)	2023 (69 respondents)
<b>Primary devices used for phone calls</b> (multi-choice question)	82% mobile phone (own) 14% shared mobile phone 12% phone in office or workplace 11% public phone 9% fixed line phone in home 0% without phone access	97% mobile phone (own or shared) 14% phone in community office or workplace 10% public phone 3% fixed line phone in home 1% without phone access
<b>Reliability of public phone</b>	28% don't use a public phone 36% said it was reliable 36% said it was not or sometimes reliable	65% said it was reliable 20% said it was not reliable 15% don't know
<b>Rate of mobile phone ownership</b>	91% own or share 92% of these smartphones	97% own or share 87% of these smartphones
<b>% of phone owners on prepaid services</b>	86%*	97%
<b>Average pre-paid data allowances</b>	6% no data 54% pay for up to 10 GB/month 24% 11-40 GB/month 5% 41-60 GB/month 9% over 60 GB/month 2% unlimited	2% no data 61% pay for up to 10 GB/month 34% 11-40 GB/month 3% 41-60 GB/month 0% over 60 GB/month 0% unlimited
<b>Average number of prepaid services per household</b>	N/A	2.8
<b>Household pre-paid mobile expenditure</b> (Note: question changed to fortnightly in 2023)	<b>87 responses</b> Average household cost of \$164 / month 29% pay up to \$100 / month 45% pay \$101-\$200 / month 17% pay \$201-\$300 / month 9% pay over \$300 / month	<b>67 responses</b> Average household cost of \$98 / fortnight 57% pay up to \$100 / fortnight 40% pay \$101-\$200 / fortnight 3% pay \$201-\$300 / fortnight 0% pay over \$300 / fortnight
Media use	2022 (95 respondents)	2023 (69 respondents)
<b>Radio access</b> (multi-choice question)	56% listen via car 26% listen to a radio at home 17% through VAST/ TV 17% via phone/tablet 15% never listen to radio	67% listen via car 14% through VAST/ TV 13% via phone/tablet 12% listen to a radio at home 22% never listen to radio
<b>Primary radio stations listened to</b>	PAKAM Radio (46% listening daily or weekly, 26% occasionally) ABC Radio (40% listening daily or weekly, 26% occasionally) Commercial radio (35% listening daily or weekly, 19% occasionally)	PAKAM Radio (30% listening daily or weekly, 28% occasionally) ABC Radio (28% listening daily or weekly, 27% occasionally) Commercial radio (22% listening daily or weekly, 16% occasionally)
<b>TV access</b> (multi-choice question)	55% on TV via VAST satellite 20% via phone 9% use subscription satellite TV service	59% on TV via VAST satellite 41% via phone 13% only via USB/DVDs on TV 13% use subscription satellite TV service

<b>VAST satellite TV access</b>	82% have VAST TV service working* 15% VAST not working (45% due to set-top box not working, 30% due to a damaged dish or cabling) 3% do not have VAST installed at house	71% have VAST TV service working 16% VAST not working (82% due to set-top box not working, 9% didn't know) 13% do not have VAST installed at house
<b>Most popular sources of TV and online content</b> (multi-choice question)	Streaming services (50% daily, 11% weekly) Commercial TV (7, 9, 10) (48% daily, 9% weekly) YouTube (46% daily, 15% weekly) ABC TV (45% daily, 12% weekly) NITV (38% daily, 13% weekly) ICTV (38% daily, 11% weekly)	YouTube (47% daily, 18% occasionally) Commercial TV (7, 9, 10) (41% daily, 16% occasionally) ICTV (30% daily, 16% occasionally) NITV (29% daily, 19% occasionally) Streaming services (28% daily, 28% occasionally) ABC TV (27% daily, 24% occasionally)
<b>Primary sources of news and information</b> (multi-choice question)	Direct / in-person communication (42% daily, 18% weekly, 20% occasionally) Facebook (40% daily, 18% weekly, 18% occasionally) ABC TV (32% daily, 16% weekly, 29% occasionally) Commercial TV (32% daily, 21% weekly, 26% occasionally) NITV (29% daily, 14% weekly, 32% occasionally) Online news service (28% daily, 19% weekly, 22% occasionally)	Direct / in-person communication (49% daily, 16% weekly, 16% occasionally) Facebook (42% daily, 21% weekly, 21% occasionally) Commercial TV (32% daily, 31% weekly, 18% occasionally) ABC TV (24% daily, 25% weekly, 27% occasionally) Other social media (22% daily, 21% weekly, 13% occasionally) SBS TV (21% daily, 18% weekly, 32% occasionally)
<b>Primary sources of emergency information</b> (multi-choice question)	ABC radio (43%) Facebook (41%) ABC TV (36%) Direct / in-person communication (33%) Commercial TV (24%) Text message from police or emergency services (22%)	Direct / in-person communication (58%) Facebook (52%) Commercial TV (39%) Text message from police or emergency services (29%) ABC TV (23%) PAKAM Radio (23%)
<b>Internet use</b>		
	<b>2022 (95 respondents)</b>	<b>2023 (69 respondents)</b>
<b>Latest internet use</b>	80% used internet in past week 7% in past month 9% never use the internet	96% used internet in past week 3% in past month 1% never use the internet
<b>Rate of internet use</b> (of respondents who had used the internet within the last three months)	52% use the internet almost constantly 33% several times a day 11% about once a day or several times a week	47% use the internet almost constantly 27% several times a day 19% about once a day or several times a week
<b>Regular internet users</b> (Indented items below relate to respondents who used the internet in the last six months)	89%	99%
<b>Primary online devices</b> (multi-choice question)	Smartphone (92%) Desktop computer (32%) Smart TV (34%) Portable laptop computer (26%) Tablet (24%)	Smartphone (93%) Desktop computer (25%) Portable laptop computer (13%) Smart TV (28%) Tablet (24%)

<b>Use of internet provided by others</b> (multi-choice question)	48% at place of work or education 41% at houses of friends or family 21% public space with free Wi-Fi 16% community or Shire office	49% at houses of friends or family 32% at place of work or education 28% public space with free Wi-Fi 13% community or Shire office
<b>Reasons given for not using the internet more</b> (multi-choice question)	'I do not need to use the internet more often' (45%) 'The internet is too expensive for me' (25%) 'I am not confident using the internet' (15%) 'I do not have convenient access to the internet' (14%)	'I do not need to use the internet more often' (46%) 'The internet is too expensive for me' (41%) 'I am concerned about privacy or scams' (18%) 'I do not have convenient access to the internet' (15%) 'I am not confident using the internet' (15%)
<b>Concern about amount of time spent online</b>	16% extremely concerned 14% moderately concerned 35% slightly concerned 28% not at all concerned	13% extremely concerned 12% moderately concerned 27% slightly concerned 38% not at all concerned
<b>Low internet users</b>	11%	1%
<b>Reasons given for not using the internet more</b> (multi-choice)	'I have no need to use the internet' (50%) 'I am concerned about privacy or scams' (40%) 'The internet is not a priority for me' (40%)	'I have no need to use the internet' (100%) 'The internet is too expensive for me' (100%)
<b>Fixed Broadband Services (e.g. nbn Sky Muster, ADSL, Starlink)</b>	58% did not have any kind of fixed home internet* 11% on nbn service (Sky Muster)* 11% other form of fixed internet [possibly community Wi-Fi]*	86% did not have any kind of fixed home internet 7% other form of fixed internet [possibly community Wi-Fi]* 4% on nbn service (Sky Muster)
<b>Respondents with fixed broadband</b>	61%*	14%
<b>Data allowances</b>	60% had less than 49 GB/month 29% between 50-199 GB/month 5% above 200 GB/month 5% unlimited	70% had less than 49 GB/month 20% between 50-199 GB/month 10% above 200 GB/month 0% unlimited
<b>Average cost</b>	\$25.35 / month	\$29 / month
<b>Mobile broadband Services (e.g. 4G modem or dongle)</b>	33% used a laptop/tablet SIM 23% used a Wi-Fi dongle / device 4% other mobile broadband device (91% of these pre-paid)	10% used a Wi-Fi dongle / device 7% used a laptop/tablet SIM 1% other mobile broadband device (92% of these pre-paid)
<b>Respondents with mobile broadband</b>	61%	19%
<b>Data allowances</b>	69% had less than 10 GB/month 19% between 11-40 GB/month 9% between 41-100 GB/month 2% above 100 GB/month 5% unlimited	69% had less than 10 GB/month 15% between 11-40 GB/month 15% between 41-100 GB/month 0% above 100 GB/month 0% unlimited

<b>Frequency of exceeding data limits</b>	60% exceeded their monthly data limit between 1-5 times in the last year 14% 6-11 times 7% every month	8% exceeded their monthly data limit between 1-5 times in the last year 0% 6-11 times 100% every month
<b>Affordability</b>		
	<b>2022 (95 respondents)</b>	<b>2023 (69 respondents)</b>
<b>How often respondents cut back on essential household costs to afford personal or household internet</b>	21% often or always 42% sometimes 37% rarely or never	7% often or always 64% sometimes 29% rarely or never
<b>Respondents who compromise on internet speed and/or quality to prioritise affordability</b>	63%	80%
<b>Digital Ability</b>		
	<b>2022 (95 respondents)</b>	<b>2023 (69 respondents)</b>
<b>Regular internet users</b> (The following indented sections refer to respondents who had used the internet within the last six months)	89%	99%
<b>Basic digital ability metrics</b> (very true or mostly true of me)	Connect to a Wi-Fi network (70%) Use a mobile device as a Wi-Fi hotspot (69%) Find and install apps (69%) Complete online forms (69%) Download and then open a file (67%) Send and receive emails (67%) Open a new browser tab (66%)	Connect to a Wi-Fi network (84%) Use a mobile device as a Wi-Fi hotspot (82%) Find and install apps (82%) Open a new browser tab (77%) Send and receive emails (76%) Download and then open a file (76%) Complete online forms (74%)
<b>Online security and cyber-safety awareness</b> (very true or mostly true of me)	Set/manage secure passwords (67%) Identify which apps/software are safe to download (66%) Add or remove friends or followers on social media (63%) Set/adjust privacy settings (63%) Check if information is trustworthy (63%) Decide what personal information to share online (62%)	Decide what personal information to share online (77%) Set/manage secure passwords (77%) Add or remove friends or followers on social media (77%) Set/adjust privacy settings (73%) Identify which apps/software are safe to download (73%) Check if information is trustworthy (70%)
<b>Online content creation</b> (very true or mostly true of me)	Produce online content (40%) Post videos (57%) Create websites (36%) Awareness of online copyright law (43%)	Produce online content (61%) Post videos (66%) Create websites (46%) Awareness of online copyright law (65%)
<b>Smart devices (e.g. smart TV)</b> (very true or mostly true of me)	Connect smart devices (e.g. smart TV) to the internet (59%) Adjust smart device privacy and security settings (50%)	Connect smart devices (e.g. smart TV) to the internet (47%) Adjust smart device privacy and security settings (36%)

<p><b>Primary online activities</b> (activities undertaken in past six months)</p>	<p>Online banking (81%) Accessing government services (79%) Online buying / selling (75%) Online shopping (75%) Tracking packages (74%) Comparing prices of products or services (72%) Accessing health information (70%)</p>	<p>Online banking (91%) Accessing government services (83%) Online learning / study (73%) Online shopping (67%) Tracking packages (61%) Comparing prices of products or services (60%) Accessing health information (59%) Online buying / selling (58%)</p>
<p><b>Social media use</b> (activities undertaken in past six months)</p>	<p>Keeping in touch with family or friends (76%) Meeting new friends or reconnecting with old friends online (73%) Engaging with community (75%)</p>	<p>Keeping in touch with family or friends (79%) Meeting new friends or reconnecting with old friends online (73%) Engaging with community (76%)</p>
<p><b>Online entertainment</b> (activities undertaken in past six months)</p>	<p>Used online entertainment services (74%) Attended an online music, arts, or cultural event online (50%)</p>	<p>Used online entertainment services (80%) Attended an online music, arts, or cultural event online (67%) Played online games (40%)</p>
<p><b>Online navigation and transport</b> (activities undertaken in past six months)</p>	<p>70% had navigated a route via maps on a smartphone 48% had booked a taxi service via app 47% had booked a rideshare service 47% had used a public transport app</p>	<p>57% had navigated a route via maps on a smartphone 43% had booked a taxi service via app 39% had booked a rideshare service 32% had used a public transport app</p>

## Comments:

### **Improved service quality**

- + We need better internet at home. The mobile is working better now.
- + Thanks for the 4G.
- + The service has improved.
- + The internet got better and that was the main problem.
- + The new mobile tower has made it better to get broadband inside the house. Sky Muster costs too much.
- + The 4G service is better and gets inside the house now. We need more training and awareness about online safety due to scams and arguments on social media.
- + We're happy with the new mobile tower.

### **Areas with low coverage or service quality**

- + Where I live on Pender Bay homeland the internet is very wonky. I'm keen to find about Starlink. I have a postpaid phone plan which costs about \$168 per month.
- + The mobile service is still no good at my house at the northern side of the community. We have to go outside to get signal.
- + Internet could be better here, more consistent service and coverage.
- + We live at the homeland where we have the Activ8me public phone and Wi-Fi. I have a phone for my work. We need the same services that people in the town or city have. We always get the leftover funding.

## Communications

- + I need good communication for my mental health and well-being because my family all live away from here. Facebook is good if you use it properly.
- + We want a home phone back in the house for my mother to use. We haven't had it for a long time.
- + Internet is negatively influencing behaviour in the community – bad examples. Should not have to change who you are to be respected or accepted.
- + I don't like using the internet. I like the old ways of sitting down and talking, not people saying things on Facebook about each other. It makes a mess for our language and culture.

## Affordability

- + More access to free Wi-Fi.
- + Help with more free Wi-Fi access.
- + Internet is too expensive in Djarindjin.

## Digital ability

- + We need more training and support for people who don't know how to use the internet.
- + We need more training to use online services.
- + I want a home phone but I need help to sign up for it. I need more help to learn to use the phone and internet.
- + I got scammed for thousands of dollars. It's horrible so we need more awareness and workshops here about scams and put it on TV and radio. I live in Chile Creek about 10km south and need better internet access. We need to go outside to get mobile coverage.
- + More attention on building digital skills in the community.
- + More training!

## Television Access

- + We need the TV to get fixed up.
- + When it rains, the Tv drops out. It works in other communities. It would be good to get a transmitter.
- + There is no TV at the house. We have to go to One Arm Point to get a set top box because none in the shop here.

Figure 25: A young Djarindjin resident using the public phone



## Appendix 2: Community Communications Audit

About the Community	
<b>Community name</b>	Djarindjin and Lombadina communities
<b>Alternate name</b>	N/A
<b>Traditional owners/ Language group</b>	Goolarrgoon people of the Bardi country, and Bard people in Lombadina
<b>Location (Coords)</b>	16.51 degrees South 122.89 degrees East
<b>Region</b>	Dampier Peninsula, Kimberleys
<b>LGA/Shire/ Regional Council</b>	Broome
<b>Land Council</b>	Kimberley Land Council
<b>Regional Service Centre, distance</b>	Broome – 196km south
<b>Remoteness (ABS / ARIA+)</b>	Very remote
Demographic Data – ABS 2021	
<b>ABS link – All persons QuickStats</b>	<a href="https://www.abs.gov.au/census/find-census-data/quickstats/2021/UCL522020">https://www.abs.gov.au/census/find-census-data/quickstats/2021/UCL522020</a>
<b>ABS link – Aboriginal and/or Torres Strait Islander people QuickStats</b>	<a href="https://abs.gov.au/census/find-census-data/quickstats/2021/ILOC50100208">https://abs.gov.au/census/find-census-data/quickstats/2021/ILOC50100208</a>
<b>Total population</b>	253; Children aged 0 – 14 years made up 27.8% of the population and people aged 65 years and over made up 4.0% of the population
<b>Aboriginal and/or Torres Strait Islander (ATSI) population</b>	81.4% (plus 7.5% not stated)
<b>Gender breakdown</b>	49.6% male, 50.4% female
<b>Families</b>	61; Average children per family -2.1 for families with children, 1.3 for for all households
<b>Language group- number of first language speakers</b>	Bardi – 78 (37.9%); Karajarri – 4 (1.9%); Kriol – 3 (1.5%); Other – 3 (1.5%)
<b>% ATSI people who speak an ATSI language</b>	43.2%
<b>% who speak only English at home</b>	53.4%
<b>Employment levels</b>	60 people were working, including 40 ATSI people, with 52% (31) employed full time, 40% (24) employed part-time, 39 people were unemployed
<b>Education levels</b>	In Djarindjin-Lombadina, 20.1% of people were attending a school or educational institution. Educational attainment was: Bachelor’s Degree level and above – 2.9%; Certificate level III or IV – 10%; Year 12 – 13.6%; Year 11 – 25%; Year 10 – 27.1%; Year 9 or below – 14.2%
<b>Number of buildings</b>	111 private dwellings, 65 ATSI residential households; Average people per household – 3.1(3.3 for ATSI households)
<b>Housing suitability</b>	Average 1.0 person per bedroom
<b>Median ATSI weekly household income</b>	\$1,100 (\$1,028 for ATSI households)

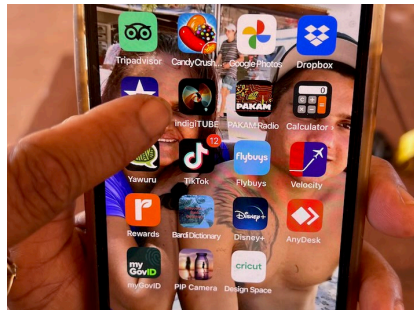
<b>Median weekly personal income – over 15 year</b>	\$388 (\$360 for ATSI people)
<b>Average weekly rent</b>	125 (\$120 for ATSI households)
<b>Average motor vehicles per dwelling</b>	1.1
<b>Community services and plans</b>	
<b>Community layout plans</b>	See Appendix 4
<b>Agencies in communities</b>	Djarindjin Aboriginal Corporation (DAC; runs Djarindjin Roadhouse, Djarindjin Store, Airport, campground, Community Resource Centre etc), Christ the King Catholic School, Lombadina Djarindjin Clinic, Lombadina Aboriginal Corporation, Nirrumbuk Environmental Health Services, Bardi Jawi Rangers, Dampier Peninsula Police Station, Djarindjin Safe House, cultural tours
<b>Visiting agencies</b>	WA Government agencies, Kimberley Aboriginal Medical Service, Kimberley Land Council, Water Corporation, Horizon Power, Broome Circle, Kimberley Community Legal Services
<b>Community development plan</b>	Djarindjin Aboriginal Corporation Strategic Plan 2023-25; Dampier Peninsula Planning Strategy 2015
<b>Power supply/type in community</b>	Diesel generator, with solar panels on roadhouse; backup generator for roadhouse and police station
<b>Use of power cards in households</b>	Yes
<b>Types of Communications Available</b>	
<b>Public phones – number/ location</b>	4 in Djarindjin (3 working during 2023 visit)
<b>Home phones – number</b>	No data
<b>Mobile – 3G, 4G, 5G, small cell (satellite backhaul), provider, location of base station</b>	4G macro cell tower on Cape Leveque Rd, 3.6 km south of Djarindjin; new 4G 700 Mhz small cell being installed in community June 2022
<b>Coverage description</b>	Poor signal strength, patchy coverage, and reports of congestion and regular dropouts at time of visit
<b>ADSL – number of connections</b>	No data
<b>Business grade services – number of connections</b>	Christ the King School and the Multi-Function police facility have fibre optic connections; DAC office had a fibre optic connection installed in 2022, with this shared via microwave links to the CRC, store, safe house and workshop
<b>Fibre to community</b>	Yes
<b>Satellite services – number, locations, provider</b>	Most local agencies (DAC Roadhouse, Lombadina Djarindjin Health Clinic, Lombadina office) and most staff houses have nbn Sky Muster services, with DAC office and facilities retaining Sky Muster for redundancy. Our survey found about 4% of residential houses have Sky Muster services
<b>UHF or HF Radio</b>	HF radio is used by emergency services and police. No information on use of UHF radio
<b>Status of services – faults, issues, speeds during peak use time etc</b>	No data, however there were reports of recent network outages, with regular mobile service outages

<b>Communications Programs – Mobile Black Spots, Regional Connectivity Program, etc</b>	Small cell was funded by WA Government Royalties for Regions and Kimberley Development Corporation
<b>Any planned upgrades?</b>	New 4G small cell being installed in June 2022; fibre optic connection to DAC office in progress
<b>Emergency information system</b>	Emergency services managed by SES, with a dedicated communications box located within the Leveque macro call compound
<b>Telemetry network</b>	Monitoring of water tanks, power generator and other services by Power Water WA; remote monitoring system installed in RIBS by PAKAM in June 2022
<b>Media services available</b>	
<b>Radio services broadcast – AM or FM</b>	ABC Radio, PAKAM Radio
<b>TV services – local broadcast, number of DTH services, number working</b>	VAST DTH only
<b>RIBS radio station – location, staff, roles</b>	Located in community office, not currently staffed
<b>RIMO – regional provider</b>	PAKAM
<b>Other media services – newspaper etc</b>	None
<b>Community access facilities</b>	
<b>Internet access facility – where located, number of computers, server, printers, other facilities, videoconferencing</b>	Computers in Centrelink office and DAC office for use of government services and banking; one computer in CRC for community access; videoconferencing in DAC meeting room
<b>Public Wi-Fi availability, free or voucher system, agency, RSP, monthly download limit</b>	DAC office has free public Wi-Fi available 6am to 6pm weekdays; Lombadina has free public nbn Wi-Fi available at community office
<b>Access computers available in other facilities</b>	None identified
<b>Any programs running to support community access – provider</b>	Djarindjin AC planning to set up a training centre for literacy and digital skills training; Christ the King School also considering setting up a community access IT facility
<b>Digital training/ support</b>	
<b>Any staff/ resources to support digital skills or access to online or digital services</b>	Centrelink and clinic staff provide support with use of online services, ID etc
<b>Any workplace digital skills training – rangers, art centre, media, store etc</b>	DAC have developed an adult literacy, learning, numeracy and digital skills (LLND) program called Choosing Your Way, with learning program developed by Murdoch University and Agenda Communication

## Appendix 3: Photos of Research Activities



Figures 26 & 27:  
Marlon Sampi doing survey with Daniel Shadforth;  
Residents  
Philomena Manado, Samina Manado and Katherine May doing survey



Figures 28 & 29:  
Julian doing a survey with Andrew Sampi; indigiTUBE and PAKAM apps are used for streaming First Nations radio



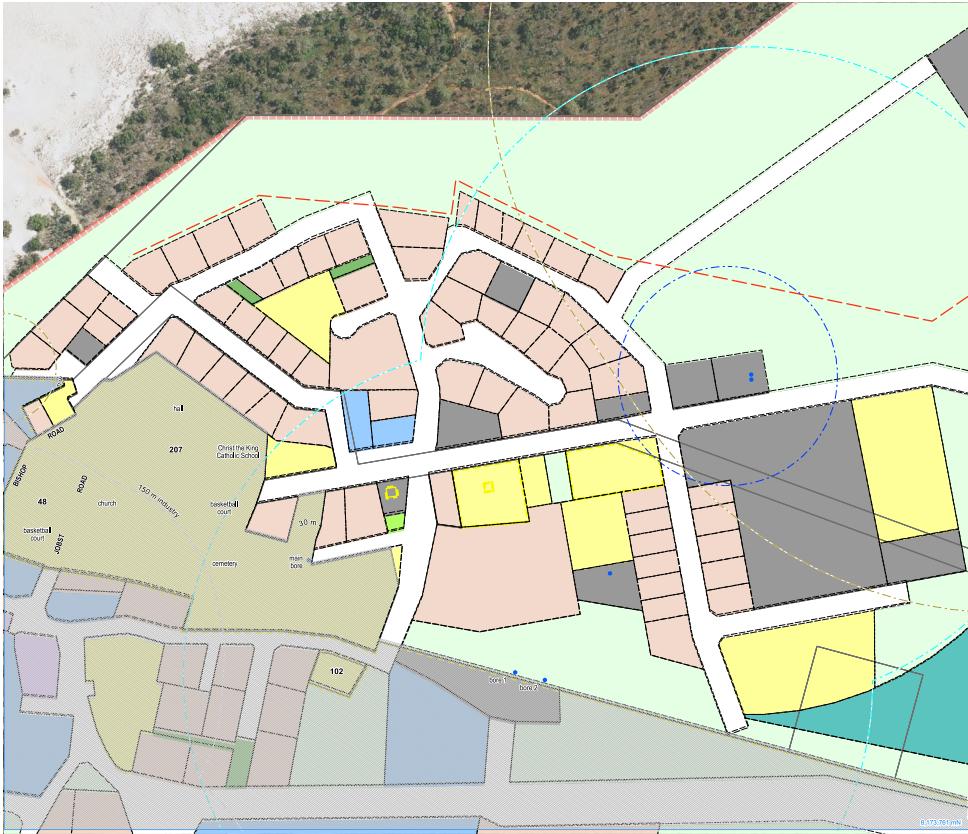
Figures 30 & 31:  
Djarindjin store;  
Audrey doing survey with Tyresha Gore



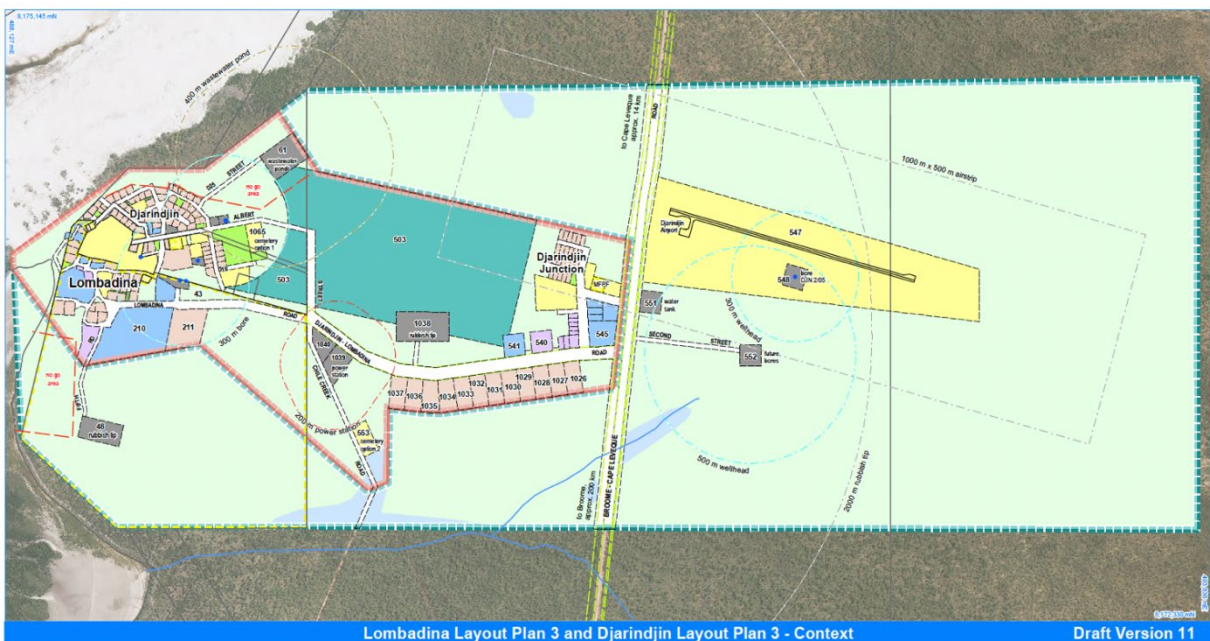
Figures 32 & 33:  
Teromah Drummond at Djarindjin CRC;  
Phillip McCarthy at Bardi Jawi Rangers HQ in Ardyaloon

**Appendix 4: Djarindjin and Lombadina Layout Plans**

(Source: WA Planning Commission)



31 May 2007  
1 July 2008  
14 October 2022



Lombadina Layout Plan 3 and Djarindjin Layout Plan 3 - Context

Draft Version 11

