

RURAL USERS DIGITAL CONNECTIVITY EXPERIENCES

March 2023



Contents

Executive Summary	3
Research context	6
Current Use	10
Connection quality and options	14
Impact of connection issues	23
Future	34

Disclaimer:

Research First Ltd notes that the views and the findings presented in the report do not necessarily represent the views of Ministry for Primary Industries and/or Ministry for Business, Innovation and Employment. In addition, the information in this report is accurate to the best of the knowledge and belief of Research First Ltd. While Research First Ltd has exercised all reasonable skill and care in the preparation of information in this report, Research First Ltd accepts no liability in contract, tort, or otherwise for any loss, damage, injury or expense, whether direct, indirect, or consequential, arising out of the provision of information in this report. Please note that due to rounding, some totals may not correspond with the sum of the separate figures.

Section 1

Executive Summary

The nature and extent of connectivity issues

Participants described a range of connectivity issues. The constraints are not simply due to no internet connection being available, very often a limited or patchy connection impacts their day-to-day lives just as much.

The core issues include:

- Limited bandwidth - this prevents everyone who wants access getting it and being able to use it at their preferred time.
- Reliable coverage - people can't trust that once they start an activity online, they'll be able to complete it.
- The physical environment restricts connectivity. Trees and hills are often blamed for lack of coverage.
- Cost barriers to possible solutions, e.g. satellite-based solutions.
- Lack of knowledge and confidence regarding connectivity options (if they're available).

What rural communities would like to use the internet for

Those interviewed would like to use the internet for all the same purposes as urban communities, i.e. to run a business, complete schoolwork, study extramurally, access healthcare appointments or emergency services, stay connected with friends and family (text, calls, email), attend funerals virtually, google things, shop online, play games, use social media platforms, or watch a streaming platform.

The reality for rural communities is that they often make trade-offs when trying to complete these activities. The 'must do' tasks, e.g. communicating with business contacts and working online, get prioritised above others and some 'want to do's' can be ignored altogether, e.g. streaming entertainment.

Current connectivity solutions

People describe a wide range of connectivity solutions, illustrating the adaptability and perseverance of people in these communities.

Often, they re-jig their schedules to fit better connection reliability, e.g. working earlier (before 8am) or later (after 10pm).

They move around to find better coverage. This may mean visiting whānau to upload and submit assignments or making time to utilise community hubs that have more reliable service, e.g. schools, libraries and marae. The Marae Connectivity Programme stands out for its positive impact. Given the marae is the heart of the community, the availability of the internet has amplified this connectivity as community members increasingly utilise it.

Other solutions rely on further investment so only those with the means can adopt them. They include:

- Satellite based providers, but is very often cost prohibitive.
- Other methods of communication, e.g. VHF, satellite phones, & EPIRBs (Emergency Position Indicating Radio Beacon).

Finally, in some dire emergency circumstances, solutions include people resorting to waiting for others to notice their absence and come and find them. This isn't a viable connectivity solution, but it does illustrate the serious implications of no coverage.

The outcomes of poor connectivity

Outcomes are varied and the impacts experienced quickly compound if an individual or household has a wide range of needs.

Ultimately everyone is inconvenienced, and rural-urban inequity becomes evident.

The implications range from relatively minor, such as giving up streaming entertainment, through to life-changing, like sacrificing further education. The impacts extend beyond personal choices, with implications for business efficiency and, in some cases, even life-threatening situations where timely access to emergency services is unavailable. At times, this impacts on people's productivity, earning potential, and overall well-being.

Because the vast majority haven't known it any other way they continue to adapt, making the best of a bad situation. If they are to thrive, using the internet to its full advantage, they need better connectivity.

Ultimately, rural communities are at a disadvantage when trying to achieve things their urban counterparts take for granted. To do the same things in a rural setting adds time and expense, if it is possible at all.

The future

Research First would suggest that rather than looking at per capita cost when assessing how or whether to invest in required improvement, the opportunity cost be put into focus, i.e. in the long term, if rural businesses can't compete and people aren't able to thrive, costs will be much greater for New Zealand as a whole.

Section 2

Research context

In New Zealand there are more than 4.5 million internet users, and internet penetration was at 94% as of January 2021. However, the availability and quality (or perceived quality) of connectivity in rural areas does not reflect in these figures. Concerns continue to be raised from those in rural communities (including participants for this work) that rural connectivity is inconsistent, the network experiences congestion issues, and the quality of service does not meet the needs of users.”

Research First was commissioned to undertake independent research to help provide a more personalised, understanding of the connectivity experience of rural users. It sought to focus on gaining the views of a cross-section of people within New Zealand rural communities on:

- The nature and extent of the connectivity issues they experience.
- What they use connectivity and the internet for.
- Any connectivity solutions they use.
- What their current connectivity (or lack thereof) means for them.

The research took place around the time of the Northland/Auckland floods and Cyclone Gabrielle; therefore, interviewees placed a great importance on the resilience and isolation created by being disconnected due to personal experiences. The timing of this research highlighted people’s reliance on connectivity from a health and safety perspective.

It was announced after the completion of this research that One New Zealand (formerly Vodafone) and SpaceX were to form a partnership that will provide 100 percent mobile coverage across New Zealand.

This project takes a qualitative research approach, which involves fewer research participants compared to quantitative methods but offers greater detail and rich insight. The scale of the project and the number of participants needs to be appropriate to capture the full representation of the diversity of rural communities.

The research approach adopted involved interviewing ten key informants from various parts of New Zealand in the first stage to gain knowledge from partners in this space. These people have in-depth knowledge from different arenas, ranging from connectivity providers to various community groups.

In the second stage, the research aimed to gain a community perspective by hosting a focus group of six to eight attendees from six different areas of New Zealand:

- Northland.
- Waikato.
- Whanganui/Taranaki.
- Marlborough.
- Canterbury.
- Southland.

These participants were recruited using a database built from publicly available sources, purchased from database companies, provided through previous research and randomly generated. The database used included a collection of residential, business and rural sample. The recruitment strategy was to include a mix of people from the following profiles for each location to ensure there was a diverse representation from within rural communities:

- Business owners (agricultural support services).
- Business owners (all other industries in rural communities).
- Health services.
- Education providers.
- Students / apprentices.
- Families with dependent children.
- Culturally and linguistically diverse (CALD) communities.
- Farmers and growers.

Representatives were then suggested by participants from each focus group to be involved in an in-depth interview, resulting in a total of fifteen representatives being interviewed to provide a more comprehensive community perspective.

Notes:

1. Throughout the report the term 'connectivity' is used to describe the ability of devices, networks, or systems to access and exchange information over the internet. There are different types of connectivity options encompassed in this term:
 - Broadband: Typically delivered over a wired connection, such as coaxial cable or fibre optic cables, but it can also be delivered wirelessly.
 - DSL or Digital Subscriber Line: It is a type of internet connection that uses existing telephone lines to transmit data.
 - Fibre-optic: Uses fibre-optic cables to transmit data at very high speeds over long distances.
 - Satellite: Uses satellite communication to provide internet access to areas where other types of internet connections may not be available.
 - Mobile phone reception: Ability to connect to a cellular network to make calls and send text messages from a cell phone.
2. In the report where Key Informant and Rural Participants feedback is consistent, the findings are combined by subject matter.

On occasion, each group presented a unique point of view or example, and these are highlighted by their relevant name in the subject heading title, for example:

- Provider Options – Key informant
- Provider Options – Rural participants

Section 3

Current Use

Everyday use

The participants highlighted that people living in rural communities use connectivity for the same activities as their urban counterparts. These activities include streaming movies and shows, making calls to friends and family, online shopping, banking, work, and study.

“ I just use it for all the normal things: social media, talking to friends, studying, watching videos and movies. I can still do all of these things, it’s just slow and frustrating.” – MARLBOROUGH PARTICIPANT.

“ It’s a common thing in rural towns to park up at the local school, sit outside the hall and connect to the school’s Wi-Fi to send emails, do online shopping or any task that needs reliable connection.” – KEY INFORMANT.

Business operations

All the participants noted those in rural communities either worked from home full-time or occasionally, making reliable connectivity important for them to complete their work. Participants utilised connectivity for various business tasks, such as sending and receiving emails or calls, downloading documents, watching online training videos, and using health and safety applications, among others. Most participants relied on applications for health and safety purposes to monitor and keep track of their workers or used themselves as an employee. For these applications to work efficiently and provide accurate location information, connectivity is vital; it enables someone to find the workers promptly if they need help.

“ My partner and I both work from home so we needed reliable internet to allow us both to take these jobs.”
– NORTHLAND PARTICIPANT.

Health services

Reliable internet connectivity is essential for rural residents who may be an hour or more away from their nearest health service provider. The ability to connect to health services online has reduced travel time and provided flexibility for scheduling appointments. In the case of major injuries or emergencies, reliable connectivity ensures that advice and help can be received quickly.

“ We use the online service for doctor’s appointments not only because it’s easier but also because my daughter doesn’t like going in to the doctors at the moment.”
– MARLBOROUGH PARTICIPANT.

Education

Participants noted that both children and adults in their communities rely on the internet for distance learning or doing homework after school. The transition to more online learning in schools and tertiary education has increased the need for good quality internet. Key informants stressed the need for better connectivity for children to learn online. This has been heightened due to the impacts of Covid.

“ During lockdown it signified the importance of the need for better internet as with all the kids at home trying to do schoolwork it was so slow no one could do anything. They just had to give up trying and go do something else.”

— MARLBOROUGH PARTICIPANT.

Key informants from the marae emphasised the need for reliable connectivity at the marae to ensure that children are not held back further in their education. They pointed out that these children are often already disadvantaged, through the lack of Wi-Fi access or otherwise. Participants praised the implementation of the Marae Digital Connectivity Programme for the improved digital access and learning opportunities it has provided their community.

Marae connectivity participants

The Marae Connectivity Programme has facilitated an increase in virtual meetings, workshops, communication with family in other regions and countries, online banking, studying, and job searching. One Marae key informant stated that connectivity has enabled their community to meet face-to-face virtually. This is particularly important in Māori culture, where meeting face-to-face enriches the connection and is a preferred mode of communication. Given that the marae is the heart of the community, the internet has amplified this connectivity as community members increasingly utilise it.

“ There is a saying in Māori, ‘kanohi ki te kanohi’ which means face to face. It is a lot better to meet face to face to connect with those especially if there is distance between you.” — KEY INFORMANT.

Summary

The people we spoke to have a wide range of internet uses. Day-to-day activities include texting, making calls, sending emails, shopping online, playing games, and using social media platforms.

Most of the rural participants, regardless of location, rely heavily on connectivity for their businesses. They use it for normal business operations and for monitoring staff and contractors as a part of health and safety protocols.

A small group of adult respondents engaged in online study or training, whereas families with school aged children need it for homework, study and online learning. Additionally, some participants are utilising connectivity for online doctor appointments.

Marae with connectivity act as hubs, helping their whānau with the same type of activities as others in rural communities while also building further community connection with the marae.

“ It doesn’t matter where you live, everyone wants to use the internet for the same reasons, nothing changes because they are living rurally. They want to watch TV online, gaming, calling friends and so on.” – KEY INFORMANT.

Section 4

Connection quality and options

Overview

Participants generally expressed frustration with the poor quality of connectivity in rural areas, but they have adapted to living with it. They have learned to work around issues such as loss of connection, high usage times, and numerous localised drop out zones. There were limited providers available to participants in these areas. Participants expressed that no providers were able to provide a consistent, stable connection, this is across both mobile service and internet connection.

The lack of connectivity in rural communities was evident throughout the research process; contacting participants online was problematic. Communications often continued over several days as participants would only have short periods of connectivity each day while moving around the area. In the Whanganui/Taranaki region, specifically Whangamōmona, recruitment was done in person within the township as this community had limited connectivity, making it difficult to reach them through any other means. During phone interviews across all locations, calls would often drop out and needed to be without video to maintain connection stability. These experiences provide tangible support to the claims made by participants.

Geographic impact

Around half of the participants reported that they were advised by service providers to cut down trees on their property to improve their connectivity. However, many of them were sceptical about this solution as they didn't think that the technology would be reliable enough if a tree could disrupt the signal. Consequently, they decided to remain disconnected. One participant mentioned that the trees they were asked to remove provided their main source of shelter, so they felt that cutting them down was not worth it. For those who did follow the advice and cut down trees, there was no improvement in their connectivity. This suggests a disconnect between providers and clients in understanding their needs to use the service they are paying for.

“ Those trees are my main source of shelter. It's not worth losing them to be able to watch stuff online, the landline is all I really need.” – SOUTHLAND PARTICIPANT.

Participants noted that some people in their rural community enjoy being disconnected. We spoke to a few that shared this view. However, they also recognised the benefits of connectivity for business and safety, emphasising the importance of nationwide connectivity especially in the case of emergencies.

Moreover, participants observed that some people may think that connectivity issues should only be addressed for residents in hard-to-reach areas with no or limited connectivity. However, they argued that it is equally important to focus on those with some connection but who face ongoing reliability issues, especially for business, study, and social connections.

“ Those that are so rural they have limited connectivity often prefer it that way and therefore aren’t the ones that need to be focused on when improving connectivity to rural communities. It is those that rely on connectivity to run their businesses that need greater support in improving connectivity.” – KEY INFORMANT.

“ It’s those of us that pay for internet and want reception that need to be focused on so we can actually use the service we pay for.” – SOUTHLAND PARTICIPANT.

High use times

The participants all agreed that internet quality was worse in the evenings and during business hours. Participants from Marlborough added that at 3 pm, the network crashes because school children overload it. Most respondents reported having to adjust their work, study, or social schedules to ensure a reliable connection. People who run businesses or study from home were the most affected, often having to work early in the morning or late at night. Improved connectivity would allow rural communities to simply use the internet as they need it.

“ My wife ended up working school hours as there is no way she could get anything down outside of that time due to the high demand on the network. The internet would crash both at home and at her work in town after 3pm.”
– MARLBOROUGH PARTICIPANT.

Education of service providers

All key informants have explained that there is a large group of residents living in rural communities who are not interested in upgrading their internet connection. They do not rely on it because of their mistrust and have the mentality of “if it isn’t broken, don’t fix it”, so keep to their old ways. This demographic of rural residents may lack knowledge regarding the benefits of different technologies and how they can support and improve their current practices. There is a sense that they are scared of the internet.

A large number of participants expressed their uncertainty about whether they were using the best available service provider. Comparing different options was confusing for them. Most participants reported that they heard about providers through word of mouth. Satellite providers were frequently discussed among rural communities. Although many participants were interested in switching to a satellite provider, they preferred to wait and hear about others’ experiences before making a purchase. The high infrastructure cost was cited as a significant barrier for many participants, this is in reference to the hardware these participants needed for the provider to be able to connect to their house. Additionally, they mentioned becoming sceptical about switching to new providers due to past experiences of not receiving the promised level of quality.

“ I can’t be bothered looking into different providers. It’s just easier to stick with the same one. My neighbour just got Starlink and he’s raving about it but it’s very expensive. We get by fine at the moment.”

— CANTERBURY PARTICIPANT.

The participants highlighted that many individuals in their community remain disconnected from the internet because it was too challenging to set up. Older community members who have limited need for connectivity tend to remain disconnected. Some participants mentioned that their disconnected relatives expressed interest in obtaining internet access for personal use. However, they often don’t follow through as they feel that the process is too cumbersome or inconvenient for them.

“ Most people do have internet access, but my father is technically illiterate so goes to his ex-wife’s to watch Netflix.” — WHANGANUI/TARANAKI PARTICIPANT.

Provider options – Key informant

According to those working in the industry, rural communities have limited and low-quality options for connectivity. They suggest that satellite providers offer the most reliable connectivity. However, some key informants have pointed out that satellite service monthly fee is expensive, making it unaffordable for most people in these areas. While one company recently offered a promotion that resulted in increased adoption, there are concerns that residents may struggle to keep up with payments once the discount ends.

In addition, key informants who live in rural communities have shared their own experiences with poor-quality service providers that charge double the price of those in urban areas. This highlights the disparity in the cost and quality of connectivity services between urban and rural areas.

“ I think the big challenge at the moment is educating people to actually understand what is available because they are often too time-poor to think about how upgrades available to them could improve their processes and help them.” – KEY INFORMANT.

The marae key informants expressed that the community has been pleasantly surprised with the opportunities that connectivity has brought. However, they also noted that providers were not adequately prepared for the high level of uptake, especially after a slow start. The key informants emphasised the need for more training from providers on how to install and set up the infrastructure, with a preference for in-person training, as Māori culture values face-to-face connection. Similar to other informants, the marae key informants also identified satellite providers as the most reliable provider option.

Provider options – Rural participants

Participants strongly feel they are at a disadvantage compared to urban users when trying to access reliable internet connectivity at an acceptable cost. Most respondents recounted being approached by connectivity providers offering them attractive deals. However, once they provided their rural address, these deals were no longer available to them. It is desirable that those living in rural areas are afforded the same level of service and rates as their urban counterparts. They feel this is vital for them in order to work efficiently and stay connected.

“ We pay \$300 a month for Wi-Fi yet still have lower quality than those paying cheaper in the city. It’s not fair how slow our Wi-Fi is. We can’t run our business successfully let alone be able to stream movies.”

— CANTERBURY PARTICIPANT.

Service provider options vary regionally, as noted by the participants. A small group mentioned that satellite service providers were their only option. While the majority acknowledged satellite providers as the best provider within their community, the high cost either deterred them or was simply unaffordable. As a result, they had to stick with national WISPs (wireless internet service provider).

There was mention of several smaller service providers - these varied depending on the location, and many participants noted that these providers often offered better connectivity than other providers. Some participants mentioned having used a certain WISP in the past because they were the only one offering a good connection at the time. However, these participants also expressed that now the WISPs charged much higher prices than competitors with similar low-quality service. Additionally, there was confusion among participants about who their provider really was because some WISPs kept changing ownership as they were bought by other WISPs. Participants found this frustrating as they felt they were paying a higher price for an offer that they did not initially sign up for. Furthermore, most participants across the country were unhappy that they were unable to access fibre, even though some of them had fibre running right past their gate.

“ Fibre comes to the end of our street, but we can’t get it because being a few houses down we are counted as rural. It doesn’t make sense that it’s not available to use when it already runs so close to our house.”

— MARLBOROUGH PARTICIPANT.

In the Marlborough region, a few participants were connected to small internet providers that used satellite technology to create a setup specific to each user. While this option did not always result in reliable connectivity, it was still considered an improvement compared to their previous providers. However, participants in this region must often purchase their own infrastructure to use these providers, which can be a turn-off for many in the community due to the high costs involved.

“ My neighbour and I decided to go in together on a tower to get a new internet and reception provider. That was all well and good until my neighbour sold and the new owner decided they didn’t want it, since it was on their property, they tore it down and left me \$7000 out of pocket.”

— MARLBOROUGH PARTICIPANT.

In Seddon, most participants mentioned that a particular WISP was the most reliable provider in their area. However, 12 months ago, these residents were disconnected from their service, and despite being told they would receive improved mobile reception from alternative providers, they have been left without reception ever since.

“ Since our previous provider was disconnected 12 months ago, we have not had service at our house and on our farm.” — CANTERBURY PARTICIPANT.

A large group of participants expressed that copper cabling is the most reliable source of connectivity. Most of these participants have a landline that is also connected to the copper system, and often their Wi-Fi is also linked to the same. For residents who do not have reception at their house, the copper system is crucial for them to remain connected. However, all participants who use the copper system communicated a high level of anxiety about the possibility of the copper lines being disconnected and what will replace them.

“ We rely on our landline for people to be in contact with us and there is no reception on our property.”

— CANTERBURY PARTICIPANT.

“ If they’re going to take away the copper system, I want to know the new system is going to be better, they can’t take it away if it’s just going to be replaced with something that does the same or worse.” — SOUTHLAND PARTICIPANT.

A lack of reliable connectivity has an emotional impact too - some feel excluded and left behind. They describe that providers who advertise that they cover 98% of New Zealand can make them feel like they don't matter. Unfortunately, many participants have limited hope that they will be provided with a solution to their connectivity issues due to the small number of people living within their community.

“ Advertisements celebrating that they cover 98% of New Zealand is disappointing knowing we are the 2% they don't care about.” – CANTERBURY PARTICIPANTS.

Some participants in rural communities had to rely on extension or booster modems, either from their original modem or from their neighbours. This was because of the poor quality of their connection, which only worked if they were sitting next to the modem. In some cases, households needed multiple modems to ensure that they could receive a connection from different parts of their house.

“ With just the one modem, when mum was on call as a midwife she would have to leave her phone next to the modem and if it rang one of us would race to pick it up then call out to Mum. It wasn't the best situation when women would call her distressed and needing help.”
– CANTERBURY PARTICIPANT.

Summary

Connection quality issues include bandwidth issues at high-use times.

Participants note that they often do tasks relying on connectivity before 8am or after 10pm to avoid interruptions from Wi-Fi cutting out. They also describe the physical layout of their area and its surroundings impacting their level of connectivity, as providers express to participants that hills and trees often blocked their reception. In addition, drop out zones are described, where access just simply isn't available.

Providers offering connectivity through satellite are described as providing a more reliable and better-quality service compared to other providers who offer low-quality service at high prices.

A wide range of providers were identified across all locations, but only a few of them provided quality connectivity that participants could rely on. Most participants noted satellite providers to be the leading technology for reliable internet and reception, but many found it too expensive to adopt. Those who were connected to a satellite provider opted for it as it was often their only option for connectivity. In some instances, people described having to purchase their own infrastructure to receive connectivity, which again introduces a cost barrier for many.

Participants generally lacked knowledge about the different providers and how the different options could support or improve participants day-to-day life, with many of them sticking with their original provider due to the hassle of changing. They were also sceptical about changing providers as previous experiences did not result in improved service. There is also a sense of frustration amongst some as they believe their low population density reduces provider motivation to improve things for them.

“ It's a numbers game, we know that. Without enough of us here they won't improve any of the infrastructure. If someone in town was dealing with the same problems we were it would get fixed. It's frustrating to know that because we live rurally this is what we have to accept.”

— SOUTHLAND PARTICIPANT.

Section 5

Impact of connection issues

Health and safety

ACCESS TO EMERGENCY SERVICES

Reliable connectivity is crucial for individuals in rural communities, as it allows them to call for help and access emergency health services when needed. Many rural participants have expressed concern for their health and safety due to poor connectivity, especially those working alone in large areas.

“ In the case of asking for help or getting emergency services obviously not having connectivity is a huge barrier that has a real reliance on the community and of those people around you to help and we’ve seen that. The goodwill of the community and people looking after each other made a big difference. If you’ve got somebody with a medical emergency, if you don’t have connection then it’s likely to be a bad outcome because you’re not able to get help.” – KEY INFORMANT.

During conversations with participants there were many alarming stories about lack of connectivity and its impact on health and safety. Examples include people being severely injured and stranded for hours before someone finds them after searching when they didn’t return home, individuals knocking on doors to use landlines to call for help due to car crashes or fires, and extreme cases where rural residents resort to using emergency locator beacons to access help due to poor connectivity. These incidents can be life threatening and highly time sensitive for those in rural communities and anyone passing through. Therefore, reliable connectivity was raised as critical for people to call for help and access emergency health services.

“ We often have people knocking on our door to use the landline after running down the road looking for a house since they have no reception after being in a car crash.”

– CANTERBURY PARTICIPANT.

“ We’ve had to walk for half an hour to the neighbour’s house though flooding paddocks for shelter, reception and power. If they have been disconnected, it’s on to the next house. Being in a small community everyone gathers and helps each other out.” – KEY INFORMANT.

HEALTH AND SAFETY FOR TRAVEL

One of our researchers experienced first-hand how poor connectivity can pose a health and safety risk. While driving home from a focus group in Whangamōmona, they encountered a large fallen tree blocking the road. Without reception, they had to turn back and drive to the local hotel to get assistance. Fortunately, someone at the hotel had a chainsaw and was able to help so the tree was removed.

Participants noted that for businesses with contractors coming on and off-site, having connectivity is crucial to keep track of their whereabouts and to provide health and safety information. This reliance on connectivity is significant for those in rural communities.

“ Now that we have better connectivity it’s been really handy for contractors to just notify us when they are on site so we can keep track over everyone or know to come meet them down at the yard.” – CANTERBURY PARTICIPANT.

HEALTH CARE ACCESS

Access to healthcare services is crucial for rural communities, and connectivity plays an essential role in ensuring residents can access these services. Key informants working in the health sector noted that residents are more likely to see a health professional if they have access to online doctor consultations due to the reduced impact it has on their day. The majority of participants highlighted that people in rural communities will book an appointment with an online doctor to get a gauge of the severity of injury or health condition before deciding on the urgency of driving to a hospital. This allows for a more informed decision-making process and can save time and resources for both the patient and healthcare provider. Overall, improving connectivity can greatly enhance access to healthcare services for rural communities.

“ There has been a growth in the use of online health services as it is really functional for farmers and those living within rural communities to access a health professional without having to drive an hour or so.”
– KEY INFORMANT.

“ We have to schedule online doctors’ appointments to be during school hours to ensure we have reliable connectivity for the appointment.”
– MARLBOROUGH PARTICIPANT.

Social connection and community support

MARAE CONNECTIVITY AND COMMUNITY SUPPORT

Many people view the marae as a community hub, and as a result, participants recognised the importance of prioritising marae connectivity. Key informants from the marae explained that residents instinctively turn to the marae when something occurs within the community. Consequently, connecting the marae is beneficial for linking the community to information and providing support during crises.

Participants also noted that connectivity plays a significant role in fostering connections within the marae community. Serving as a central meeting place, key informants emphasised that marae connectivity increased engagement between whānau members who may be disconnected from their tūrangawaewae due to living across the country or even internationally. One informant shared an instance where marae connectivity enabled whānau to virtually attend a tangi. Moreover, connectivity proves beneficial for sharing information within the community, particularly when a prompt response is needed from a widespread audience, e.g. gauging the number of people that need to be catered for at various gatherings.

SOCIAL CONNECTION

All participants recognised that living in rural areas can sometimes lead to social isolation, which can negatively impact wellbeing. They expressed particular concern for two groups: the elderly and young adults. Improving connectivity can positively impact the wellbeing of these groups and help reduce social isolation.

Elderly residents

Poor connectivity was particularly concerning for the elderly, as they may not be able to stay in touch with family and friends who could otherwise ensure their emotional wellbeing and safety. Most participants noted that they do not have access to video calling due to poor connectivity, which can be the next best thing to seeing someone in the flesh.

Youth and young adults

Participants shared that reliable connectivity is crucial for the younger generation, as poor connectivity negatively impacts their mental health. Sometimes, they just need to pick up the phone and call a friend, but it's not always feasible. They also mentioned missing out on social events due to poor connectivity and messages failing to get through. This aspect of life is vital for this group, as missing out on social interactions can affect their overall wellbeing.

“ My friends got used to not being able to contact me unless I had come into town. Since getting Starlink they now know I can be contacted on social media platforms.

— CANTERBURY PARTICIPANT.

Farm Workers

Participants stated that maintaining connectivity for farm workers was important to supporting their wellbeing and helping job satisfaction; video calling their loved ones plays a vital role in reducing their isolation. Digital connectivity can help farmers retain workers by enabling them to stay connected with their families, which in turn supports their mental health.

Those who live alone were also noted as a concern, as poor connectivity limits their ability to seek support, maintain social connection, or call for help.

“ The man who works for us lives alone and is often working out on the farm by himself therefore has limited contact with people. During lockdown we would walk up to his house to invite him for a walk, we couldn't just text due to having no reception.” – CANTERBURY PARTICIPANT.

Education

All key informants expressed concern about how residents in rural communities might fall behind in education and business due to poor connectivity. The majority of key informants reflected on the impact of the Covid-19 pandemic and noted how it led to many children in rural areas being unable to receive education due to unreliable connectivity.

“ They just ended up deciding the year didn’t count as a limited number of kids had devices let alone good Wi-Fi to be able to do any schoolwork.” – KEY INFORMANT.

Key informants also acknowledged the limitations that poor connectivity poses for those in the community who wish to pursue higher education or further training. Informants noted those studying in rural areas often drive into town to receive better connectivity, often going to the library.

The internet has become an essential part of schooling, as it enables students and teachers to access online resources for researching, writing, and utilising educational tools. Therefore, reliable connectivity is crucial for their daily activities. Most locations reported that the school in their area had the best connectivity in town since schools are connected to fibre. Participants noted that it was common for people within the community to use the school Wi-Fi to send emails and conduct personal and business tasks. However, participants in Whanganui/Taranaki were an exception to this, reporting that the school Wi-Fi is also unreliable and disruptive to students.

“ The Wi-Fi at school has been terrible lately. For the kids with extra needs who rely on internet for school, their computers are constantly buffering. With only 16-18 kids at the school only half can be online at once.”

– WHANGANUI/TARANAKI PARTICIPANT.

Those residing in rural communities are among the primary users of online learning resources, making reliable internet connectivity vital to ensure they are not left behind. In the wake of the recent widespread shifts to online learning as a result of Covid, the reliability of internet connection has become increasingly important.

“ The shift to online learning due to Covid lockdowns has signified the need for reliable connectivity.”

– MARLBOROUGH PARTICIPANT.

Participants reported that online studying was challenging due to the limited access to reliable internet. They had to adjust their daily routines and study either very early in the morning (often before 8am) or very late at night (after 10pm) to avoid losing their progress. This was a common issue across all locations, highlighting a nationwide problem.

One participant described having to drive to their aunt's house ten minutes away to access better Wi-Fi for watching lectures, downloading materials, and submitting assignments. During lockdown, they moved house, living in the same bubble as their aunt, so they could complete their studies.

“ I was having to complete training at 1am so that the connection wasn't interrupted and I didn't lose everything I had done.” – SOUTHLAND PARTICIPANT.

“ Often the Wi-Fi is too slow to be able to study from so I usually go into town and study at a café.”
– WAIKATO PARTICIPANT.

The Marae Connectivity Programme has been transformational for those living at the marae and within the community as they now have reliable internet access, opening up opportunities for them to study online. However, participants noted that the internet connection can be unstable at times, leading to frustration as any unsaved work may be lost. Despite this challenge, the program has enabled residents to complete their training, which may not have been possible otherwise.

“ I don't have enough money to pay for petrol to be able to get into town to access internet to study. Having Wi-Fi at the marae has made studying accessible.”
– NORTHLAND PARTICIPANT.

Business operations

CHANGING WORKING HOURS

Improving connectivity would enable rural communities to operate more professionally. Common issues highlighted by participants include dropped phone calls, failed online orders, difficulty receiving communication, and problems downloading documents and training forms. While all participants have learned to work around these issues, they still feel they are half as productive as they could be with good connectivity. Participants mentioned working on tasks that require stable connectivity between 5am-8am and after 10pm to avoid network congestion caused by other residents and family members. Otherwise, the high density of users on the network during peak hours means constantly restarting jobs.

“ I will be in a meeting and because the majority of us live rurally there is constantly someone frozen and we are to constantly repeat ourselves.” – KEY INFORMANT.

“ Connectivity is at the worst point it’s ever been due to the gap between those with connectivity and those without. People forget that there are still areas without reception and Wi-Fi therefore don’t understand that we can’t respond instantly or have to arrange meetings at a time connectivity is likely to be stable.” – CANTERBURY PARTICIPANT.

ADAPTING WAYS OF OPERATING

Improved connectivity is vital for businesses operating in rural communities to thrive. One participant shared that the Wi-Fi in their area was so poor that they preferred to drive for an hour to Christchurch to collect forms from their lawyer, rather than relying on email. The level of connectivity available to those living in rural areas is insufficient to allow for timely sending and receiving of important documents. As a result, people have adapted, finding solutions that can be time consuming to ensure connection is better, leading to significant delays and inconvenience.

However, those who have connected to a satellite provider have reported several benefits for their businesses. For instance, one participant mentioned that improved connectivity enabled them and their partner to work from home simultaneously. Previously, when their partner worked from home, everyone else in the house had to avoid using the internet to ensure she had a stable connection. Since joining a satellite, the family no longer need to coordinate their internet usage.

“ I get sent documents that I have to get up at 5am or midnight to download due to the Wi-Fi being so slow.”
– MARLBOROUGH PARTICIPANT.

COMMUNICATING WITH EXTERNAL PROVIDERS

Participants who lacked reception expressed difficulties in connecting with contractors when they came on-site. For most of these participants, they needed to remain at home and be available when the contractors arrived, again inconveniencing them and adding unwanted delays to their day.

“ Since we don’t have reception, if I know someone is coming or going to call I have to stay at the house as we rely on Wi-Fi calling. This restricts what I can do until they’ve called as I have a small radius I can go from the box.” – CANTERBURY PARTICIPANT.

All participants reported having patchy connectivity in and around their homes. It was common for them to have to hold their phones in specific spots to get reception, and even then, they often experienced dropped calls. For instance, a participant who works in real estate mentioned that they frequently call clients while driving, as it is the only time they have available. However, due to many blackout spots in the area, they need to advise clients that they are likely to lose the call but that it will reconnect when they are back in service. This participant expressed frustration at having to operate in this manner, as it is unprofessional.

“ It is really frustrating having to start over on a job because you’ve lost Wi-Fi. It’s something we’ve learnt to live with and found ways to adapt so we can get things done.” – CANTERBURY PARTICIPANT.

“ A client will be frustrated with me for not responding to an email or text that I haven’t received due to having poor reception and Wi-Fi.” – MARLBOROUGH PARTICIPANT.

Participants observed that the rising cost of living has forced both partners to provide a source of income. Consequently, there has been a growth in businesses being run out of people's homes, whether it be a cleaning business, homemade goods, or remote working. To run these businesses successfully, people are heavily reliant on connectivity. It is evident that there is an increased need to improve connectivity in rural communities to support these home-based businesses.

“ Due to the cost-of-living people are no longer able to have one partner run the farm and the other look after the house. Both partners are needing to work, therefore there has been a growth in businesses being run out of people's homes, whether it be them making marmalade or working remotely.” – MARLBOROUGH PARTICIPANT.

“ In some respects, things like the increasing reliance on connectivity to do business is probably something that wasn't anticipated. Because of the way it's gone in terms of the reliance on technology, it's almost an impossible situation. Because in order to keep up, they need to have their connectivity, which is a cost they may not produce.”
– KEY INFORMANT.

Job opportunities

Improved connectivity is very important for rural communities to access job opportunities, particularly with the rise in jobs that support working from home. Commuting is costly and time-consuming for rural residents, making the ability to work from home attractive. Additionally, better connectivity increases the likelihood of business owners in rural areas finding and retaining staff. All participants noted the impact of poor connectivity on staff interest in jobs, as they want to stay connected with friends and family, study, use social media, and watch TV shows and movies. Given current labour shortages, it is frustrating for employers to lose potential employees due to factors beyond their control.

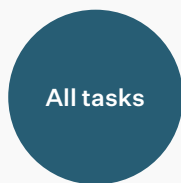
“ Farmers can find it really hard to find staff and keep them if there is poor connectivity. It is important for the staff's wellbeing that they can still talk to friends and family.” – KEY INFORMANT.

Marae key informants highlighted the need for connectivity to enable rural communities to seek employment, as job opportunities are now advertised online rather than in newspapers. A specific website for Māori job seekers was mentioned, but without connectivity, they are unable to access it. Word of mouth has become a relied-upon source of information for job opportunities. If connectivity was improved, it would enable more rural residents to access more job opportunities.

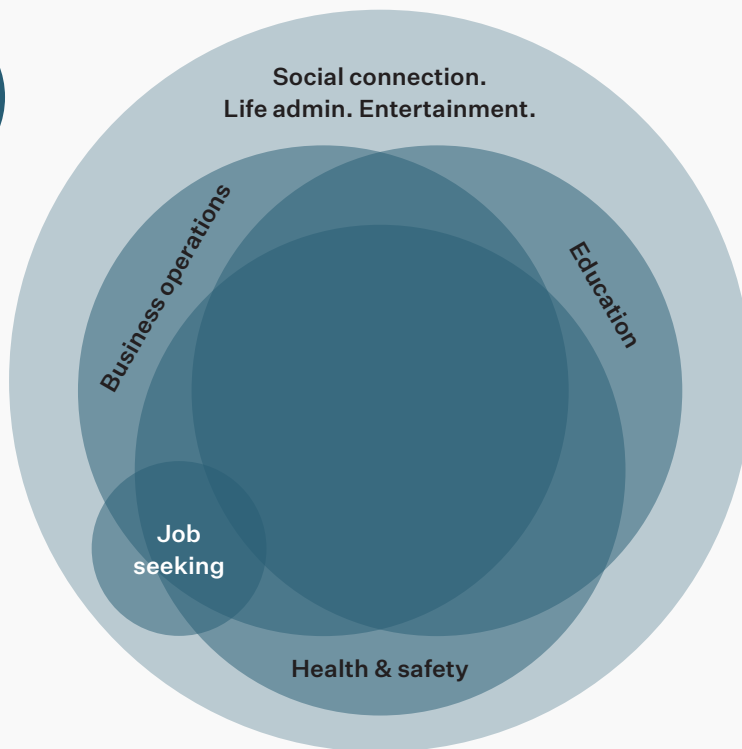
ILLUSTRATION HIGHLIGHTING COMPOUNDING INCONVENIENCE OF POOR CONNECTIVITY

Each circle represents a group of people wanting to engage in a task online.
The more opaque the circle, the greater the inconvenience.

No Connectivity



Limited Connectivity



Prefer to be offline



Section 6

Future

Key informants

According to key informants, improved connectivity is essential to ensuring that rural communities have the same opportunities as those living in urban areas. Basic everyday tasks such as online shopping, communication, banking, watching movies, and social media are what rural communities desire to use the internet and reception for. For those running a business or working from home, improved connectivity is crucial to boost productivity and enable them to be reliable for their clients.

Marae key informants expressed their desire to hold more face-to-face workshops in the future that will teach members of the community how to use their devices, connect to Wi-Fi, and fix common issues. Currently, those who are struggling to connect or use their device often ask younger members for help. However, these younger members typically return the device with the problem solved, but without teaching the elder how to fix it themselves. This is particularly important for elderly community members who live alone, as connectivity can limit the impact of loneliness on them. Training is also needed for people in this community to give them the skills to do online banking and search for information online, as they often lack access to physical places for help with these tasks.

“ People in rural communities often aren’t asking for all the bells and whistles. They just want to be able to pay their bills, call their friends and run their business.”

— KEY INFORMANT.

“ Workshops that teach people how to use their device, access online banking and search for information are skills that those within our communities need to be taught.” — KEY INFORMANT.

Rural participants

Participants in rural communities are looking for improved connectivity in order to increase productivity. They need a reliable connection to be able to run their businesses, stay connected with family and friends, use online health services, study online, and improve health and safety monitoring and response. Most participants mentioned that improved connectivity is necessary to run their businesses effectively. While it would be nice to use the internet for personal use such as watching movies, videos, and online shopping, the focus is on the need for connectivity for their business.

“ I just want a reliable connection so I can receive text, calls, and send emails. Nothing fancy, I just want to be able to run my business.” – MARLBOROUGH PARTICIPANT.

Improved connectivity would remove the barrier for those in rural communities to study online, making it a viable option for them. Participants expressed their interest in attending training workshops and committing to online studying, but the stability of their connection has been a major concern. With reliable connectivity, they would be more inclined to use the internet for educational purposes.

“ I’m wanting to do some online training but I’m worried that my Wi-Fi won’t be good enough to not make things difficult for me.” – CANTERBURY PARTICIPANT.

Participants emphasised the importance of improved connectivity in supporting health and safety, as it would provide them with a sense of security when performing tasks, knowing they could call for help from anywhere. They mentioned that having reliable connectivity would also reduce the cost to businesses that currently rely on radio telephones and locator beacons for communication and safety. The ability to use cell phones as a dependable source of communication and safety device would provide relief to business owners and workers alike.

“ We use radio telephones to communicate around the farm, sometimes there are other people on the line, so we have to change lines to find each other.”
– CANTERBURY PARTICIPANT.

All participants expressed a desire for a better and more affordable service, like what urban areas receive. They want a service that allows them to use the internet without interruptions and the burden of inconvenience.

Summary

People have very reasonable expectations: primarily they want to be able to secure better futures for themselves and their families. This means: run their businesses more effectively, have improved educational opportunities and better health, safety and social outcomes. They have placed entertainment, e.g. streaming platforms, in the 'nice to have' category.

Without improving these primary elements, rural communities are at a distinct disadvantage compared to the rest of the country. It is likely that inequities will emerge, and/or grow, that will impact primary industry productivity, people's prospects and their wellbeing.

Research First would suggest that rather than looking at a per capita cost when assessing how and whether to invest in required improvement, the opportunity cost be put into focus, i.e. in the long-term, if rural businesses can't compete and people aren't able to thrive, the costs will be much greater for New Zealand as a whole.

The research findings indicate that rural communities supported by better connectivity, will enable:

- Improved social connection and wellbeing. Participants who have switched to a satellite provider have pointed out that improved connectivity has enabled them to seamlessly communicate, reducing frustrations and social isolation.
- Better health and safety in rural communities. The availability of calling, texting, and video chatting options for family and friends provides reassurance to those living in remote areas that they can remain in touch at any time. In case of an emergency, the ability to call for help is essential.
- Increased productivity and job opportunities for people living in rural communities. With the ability to work from home, the job market widens for individuals living in remote areas. Additionally, for those who run their businesses from home, reliable connectivity is crucial as it enhances productivity and facilitates professional communication with suppliers and contractors. As the cost of living continues to rise, there has been an increase in the number of dual-income households, highlighting the growing need for a dependable network.
- The opportunity for reliable online learning. Recent events such as the Covid pandemic and flooding caused by cyclone Gabrielle and Auckland floods in 2023 have highlighted the importance of online learning as a way for both schoolchildren and tertiary students to continue their studies. Reliable connectivity is essential for attending classes and completing coursework online, allowing individuals to stay up-to-date with their studies. Moreover, in some households, multiple people may rely on online learning, underscoring the critical need for a dependable network that can support heavy usage.

- Improved community connections amongst iwi. Marae participants emphasised how the enhancement in connectivity on some marae has aided in connecting their community within and outside the region, including their family and friends overseas. The improved connectivity has facilitated the use of the marae as a hub as residents access the internet for performing daily tasks, such as sending emails, online shopping, banking, and communicating with their loved ones. As face-to-face interaction holds significant importance in Māori culture, the ability to connect over video chat further strengthens the value of their bond.

In an environment where people can thrive the above activities will not need to be 'traded off' because of connection issues. Enabling people in rural areas to be productive, socially connected, educated, and safe should be the ultimate goal.





Research First Ltd
Level 1, 21 Carlyle Street
Sydenham, Christchurch 8023
New Zealand
0800 101 275
www.researchfirst.co.nz