

**ARC CENTRE OF EXCELLENCE FOR CREATIVE INDUSTRIES AND
INNOVATION**

**SUBMISSION TO THE
THE 2011-12 REGIONAL TELECOMMUNICATIONS REVIEW**

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INTRODUCTION

Recent research shows that many remote Indigenous communities have little access to the internet and make little use of it. In central Australia, Indigenous households are 76 per cent less likely to have internet access than non-Indigenous metropolitan households: outside Alice Springs, internet take-up was 2.2 per cent in these households (ABS 2006).

The Indigenous population living in remote and very remote parts of Australia comprises 108,143 people, or 0.54 per cent of the total Australian population (ABS 2006). As such, it represents a miniscule section of the national broadband market. Nevertheless, broadband is an important and evolving element in relation to providing basic communication needs and in enabling Indigenous people to live sustainably on their traditional lands. It has the potential to connect dispersed communities into services such as hospitals, financial management, enterprise development, online purchases and emergency assistance. It also presents opportunities for developing archives, documentaries, language preservation, stories, and young people's creative expression.

This submission will report on findings from the Home Internet for Remote Indigenous Communities project in relation to the *Regional Telecommunications Review*, particularly the communication needs of Indigenous people and communities (Rennie et al 2010; Rennie, Crouch & Thomas 2011). This project is relevant to the Review because it concerns the issues involved in improving access to computers, the internet and basic telecommunications services in remote communities, specifically smaller settlements in central Australia.

The findings of the Home Internet Project (HIP) are based on fieldwork undertaken by researchers from the ARC Centre of Excellence for Creative Industries and Innovation, the Centre for Appropriate Technology (CAT) and the Central Land Council (CLC) from August 2010 to February 2011. Researchers worked with small three communities in central Australia: Kwale Kwale, Imangara and Munglawurru. Each of these received computers and internet access on a household basis for the first time.

The submission examines the reasons for the low level of internet access and use, and makes recommendations to enable the uptake of home internet in these communities and to encourage their greater participation in the digital economy. The Home Internet Project on which it is based aims to provide a starting point from which new approaches to internet in remote Indigenous communities may emerge.

THE DIGITAL ECONOMY

Question 5. *What are some examples of what you want to see happen to encourage greater participation in the digital economy by people living and working in regional Australia?*

Access to and use of communications and media technologies

The initial baseline study of the Home Internet Project sought to identify the level of access to and use of internet and media communications in Kwale Kwale, Munglawurru and Imangara. The study revealed poor access on multiple fronts, with a substantial impact on everyday life in these communities. For instance:

- Only one household had access to the internet (out of approximately 30 homes)
- None of the communities had reliable mobile phone coverage

- A limited number of free-to-air television channels were available in Kwale Kwale and Imangara, while Mungalawurru had no free-to-air television transmission
- There was one shared public telephone in both Mungalawurru and Imangara (no home telephones). Kwale Kwale had two home telephones with restrictions on calls to one phone, and no public telephone.

Less than 6% of total residents had a laptop or home computer. Of the residents interviewed, 58% had used a computer at some time in the past. However, a third of those who had used a computer had never been online. Three quarters of internet users were under the age of 30. This level of internet use is extremely low when compared with existing studies on internet use in mainstream Australia, which show that eight out of ten Australians access the internet regularly.

Overall, those who had used a computer in the past responded positively when asked if they would like a computer in their homes. Participants who had not used computers or the internet found it difficult to identify needs, as their knowledge of what the technology could be used for was extremely limited.

Possible drivers for take-up, as discussed by interviewees were: young people's education; access to services; access to information/contacting relatives and friends; enterprise and administration; entertainment; and creating local content. When asked to rate these needs, communities identified kids' schooling, access to services and talking to friends and family as the main reasons why they might like access to computers and the internet.

Communications policy

Remote Indigenous communities have limited choice when it comes to broadband technologies and providers. The presence of optical fibre, which is the usual backhaul technology for mobile base stations, is largely limited to the proximity of the north-south road corridor (Stuart Highway, Darwin to Adelaide via Alice Springs) in central Australia. Even where residential phone lines are present, most of these phone services are provided on low-capacity radio infrastructure that does not have the speed per service to support effective data communications. For the vast majority of communities that do not have access to Next G mobile broadband, satellite is the only option. Many areas are likely to remain without wireless (Next G and beyond) coverage due to market and geographical constraints.

The participants in the Home Internet Project were unaware that satellite internet access is available at metropolitan comparable pricing, via the Interim Satellite Scheme (administered by NBN Co), or that the government offers a subsidy to cover installation costs. A key motivation for the Australian Government's multi-billion dollar investment in the NBN is to facilitate the digital delivery of government and public services, including health and education, to all Australians (Conroy 2011). However, the process for organising satellite broadband requires technical knowledge and regular telephone contact, both of which are significant limiting constraints in most remote Indigenous communities.

Indigenous social policy context

The dispersed nature and small size of most remote Indigenous communities continues to be a significant challenge for government in terms of service provision and basic communication. Policies under the Closing the Gap reforms direct funding to 29 larger communities (priority/growth towns), with the expectation that residents of smaller communities will travel between locations, or move to larger towns, in order to access government services. The justification for this approach is that the transport links between the 'hub' target towns and the smaller communities in their sphere of influence will be upgraded, with a view to encouraging and assisting residents of these smaller communities to utilise the hub services.

Broadband may have particular application to smaller settlements through the use of programs such as e-health and e-education and access to other services like banking and Centrelink without requiring physical attendance at a particular location. Indigenous people choose to live in smaller communities for a variety of reasons, including maintaining connection to country and sacred sites, to avoid social problems and marginalisation in larger towns, where they do not have kinship ties. Home internet access could also alleviate significant transport costs incurred by travelling long distances and paying higher fuel prices in central Australia.

Question 6. What are the main barriers to regional communities increasing their use of information and communications technologies and do you have any ideas for ways in which regional communities could progressively overcome these barriers?

Barriers to communications and media use in remote Indigenous communities

Our study revealed a number of barriers to use, identified by participants themselves. However, it may be that the main barrier to increasing uptake and use of ICTs is something less tangible than these findings suggest. The most significant barrier is likely to be that of proximity to other users. Studies (such as Goolsbee and Klenow, 2002) have shown that households are likely to buy their first computer when a high fraction of those around them own a computer. As less than 6% of the population in the communities had a computer, the low level of computer use may in itself be a barrier to further uptake. We contend that the 'problem' here is not one of supply or demand, but that it is a collective action problem. By this we mean that the limits to uptake are determined not by individual choices, but by choices that are dependent on the collective (other people's choices). If this is the case, then it creates a strong argument for an alternative policy approach, whereby the aim should be to encourage domestic uptake for a critical mass of households. Our ongoing study is testing this theory and we will be communicating the results directly to DBCDE through our reference committee (DBCDE are represented on that committee) and other publications.

In terms of immediate issues, participants in the Home Internet Project identified the following factors as barriers to the uptake of home computers and internet:

- **Cost:** Affordability is a significant issue for these low-income families. Maintaining ongoing internet subscriptions may also be a factor.
- **Limited computer skills/experience:** Digital literacy was low, especially for people over 30. Even those who described themselves as "good" at using computers tended to have a limited knowledge of what computers could be used for. Although many identified everyday applications such as internet banking as something that would be useful, most did not know how to use them.
- **Limited English literacy:** Some participants were concerned that they would struggle to read the words on the screen.
- **Concerns over physical security:** Most adults asserted that they would need to be able to lock away their computer in order to protect it from theft and damage.
- **The home:** Some households were temporarily living in shared premises, due to home maintenance issues and energy consumption costs. These households were concerned about space for a computer, and that computers would keep people indoors.
- **Lack of support, training and maintenance:** Some were concerned that computers would get damaged or break down and that they would not be able to fix them.
- **Concerns for children:** Adults (particularly younger adults) were concerned about young people wasting time playing games and fighting over the computer. There was only a very low understanding of cyber-safety issues.

These obstacles may prevent further take-up even if access issues are overcome.

Cost: In terms of barriers, all communities rated cost as the main barrier to them getting a home computer and internet access. This finding differs from studies of mainstream Australia where cost is not a significant factor for non-users (Ewing & Thomas 2010). 43% of the participants who did not have a computer said that money was the reason. Cost is likely to remain an obstacle to internet take-up into the future for these communities. Residents across the three communities also expressed concern about power requirements, until researchers explained that computers use about the same amount of power as a few light bulbs.

The issue of money is more complicated than simply affordability. Billing and household economics also play a role. Other factors that influence household economics include: the higher than average number of dependents in remote Indigenous communities, and the nature of the economic relationships across households, high unemployment and dependency on social security payments. In-depth interviews revealed that income is mostly spent on food, rent and bills.

The system of “demand sharing” – reciprocal obligations to share resources common to Indigenous societies - may put a burden on the owner of technological items, such as mobile phones, with the result that billing costs can increase for the individual the more the phone is shared.

Existing studies into mobile phone take-up by Indigenous residents in Alice Springs and at Bloomfield River, Queensland, found that prepaid mobiles were overwhelmingly preferred over contracts, the main motivation being to avoid credit management problems. (Tangentyere Council and Central Land Council 2007; Brady & Dyson 2009). Alternative billing options should be considered for home internet access plans in smaller remote communities. Shared ‘wi-fi’ networks off the satellite connection could help reduce costs by splitting subscription costs between houses/dwellings.

Computer literacy: One third of those without a computer said either they didn’t know how to use it (21%) or had never considered getting one (12%). This last group generally had very little knowledge of what a computer could be used for and some older people asked what we meant by the words “computer”, “laptop” and “internet”.

The fact that a significant proportion of people had not obtained a computer could also suggest that it was not relevant to daily life. On further investigation, the reason “not important” rated very low in all three communities, suggesting that the cost, “not knowing how to use”, and maintenance issues are dominant.

The lack of access to support services, for instance online help and face-to-face training, is a significant barrier for those who have not received computer training at school or work. It is possible that demand sharing systems have a negative impact on skill-sharing, whereby those with computers are reluctant to teach others as that may increase demand for use of that computer.

We also found that many people lacked knowledge of basic applications that would be of great use in increasing their access to services. For example, less than 20% of participants had used internet banking and some of these participants were not confident in using it. However, around half of all participants expressed an interest in using the internet for banking. Follow-up interviews revealed phone banking, or checking a balance online either at a bank or through Centrelink, were common methods of basic banking. Fees associated with account balance checking and transactions on ATMs are often expensive on community store ATMs, and these can be avoided or reduced through online banking (see AFCCRA 2010).

English literacy: All three communities rated difficulties with reading the English language as the third most significant barrier to computer use. As one woman commented, “the issue is that English is a written word but my language is spoken”. Observation of training sessions would be an effective means of testing this perceived barrier.

The home: The government’s strategy for broadband policy for mainstream Australia is firmly centred around the home as an economic unit, either as a family, share house, couple or single person household. However, the term “household” may not mean much more than simply the physical space in the context of remote Indigenous communities. Housing conditions and occupancy vary within communities, especially due to obligations to share resources and shelter with relatives. Residents also move between houses within a community, due to building maintenance or habitability issues.

Mobility between houses emerged as an issue in relation to the installation of the new Viewer Access Satellite Television (VAST) service in remote communities, currently available in some remote regions under a subsidy scheme. Stakeholders have raised concerns over the cost to consumers at the scheme’s conclusion. For instance, if a family vacates a house in a remote community because of recent death, will the family then have to pay the full cost to have a new satellite dish installed on a different dwelling?

In smaller communities, the “extra-household” economy (whereby linked households share resources) may be more important than the individual household, and provide an indicator of social cohesion or insurance against individual hardship rather than vulnerability (Altman cited in Smith 1991, p.15). Such systems of sharing across households raise the question of whether a more communal approach to internet is appropriate for small communities, such as a shared satellite point. Moreover, if the consumption of goods and payment of bills are not organised according to household, this may have consequences for how “home internet” is conceived and managed.

Access to installation and maintenance services: Service installation and maintenance is a very challenging problem for people living in remote Indigenous communities. Tradespeople charge very high rates for time and travel. For instance, CAT reported that they were initially quoted \$1100 to have an additional power point installed in a shed already serviced with power (CAT managed to bring down the price in this instance). Computer maintenance and repairs were listed second (after cost) as a barrier to computing in Kwale Kwale and Munglawurru, and fourth in Imangara. Minor concerns included care for computers and electrical equipment generally, and protection from damage by children and dogs. Some residents suggested the construction of lockable covers for computers to help manage security problems.

Cyber-safety and ‘worry about kids’: The level of concern for cyber-safety amongst parents and guardians was low and difficult to gauge. Adults were just as, if not more, concerned about addiction to games and time-wasting behaviour than the content that children might access online. It is possible that the adult interviewees’ limited use of computers reflects their lack of knowledge of cyber-safety.

Future policy directions for remote Indigenous communities

The low take-up of internet in many remote Indigenous communities suggests that the full benefits of the National Broadband Network will not be realised for this segment of the Australian population, unless significant supports are provided. Communications policy for remote Indigenous Australians has predominantly been directed at larger communities and is currently based upon a shared facilities approach, such as internet cafes or access centres. This approach is not viable for all communities, particularly those with small populations, due to maintenance and supervision costs.

Based on the findings of the Home Internet Project, we recommend that policies and programs intended to address this 'digital divide' be extended to encourage home internet adoption and use, particularly in smaller remote Indigenous communities. Areas of assistance should include: information and consultation about broadband options; provisions for shared community Wi-Fi networks; ICT training; and the development appropriate online services and content for these communities. Our project is currently providing computers and internet to all homes in the three project communities (opt in). This research will enable us to determine whether this can resolve the potential collective action problem identified above.

REGIONAL HEALTH AND EDUCATION OUTCOMES

Question 8. The committee would like to hear from individuals and organisations about their participation in, experiences of, and expectations about, online health and education service delivery.

Broadband has the potential to assist those living in smaller remote communities through the use of applications such as e-health and e-education, alleviating the difficulties of physical service provision to these areas. In particular, the use of online services should help reduce the high transportation costs incurred by residents of remote Centralian communities, who often travel long distance to access health and other services 'in town' - that is, regional centres such as Alice Springs and Tennant Creek. While Kwale Kwale and Mungalawurru are relatively close to regional centres, Imangara and Mungalawurru is 207 kilometres from Tennant Creek. It is not uncommon for Indigenous people living in the cross-border region of central Australia to travel even greater distances of several hundred kilometres to access services in regional centres: for example, from locations such as Kintore and Kiwirrkurra, which are 530 and 850 kilometres from Alice Springs respectively.

Since only a minority of participants in the study had access to or experience of using the internet, we conducted in-depth interviews with a smaller number of people in two communities to find out how they accessed health services, banking and council services. We found that residents experienced difficulties contacting service agencies. Although residents were not necessarily aware of how broadband might alleviate this issue, they were enthusiastic about the prospect of online services. One aspect of our study is to quantify the costs associate with remote living and the ways in which broadband might reduce such costs to consumers. This aspect of the project is not yet complete, but we hope to provide useful information on this question in due course.

Health: Participants generally considered living in town (e.g. in supported accommodation) to access medical services for chronic conditions undesirable as it meant being away from family support. One resident expressed frustration at not having her own telephone because her daughter was living in town for medical reasons and she could not easily contact her. A lack of supported accommodation in Alice Springs also means that patients from out-of-town often end up camping at friends and relatives' residences, or in the Todd riverbed. Home internet access in communities has the capacity to address these issues in part through providing contact with family members via applications such as email and Skype, and to enable health professionals to monitor patients at a distance within a home setting.

Currently, the three communities in the project have limited access to health services. The residents of Kwale Kwale can only access health, education and Centrelink services in Alice Springs, forty kilometres away. Ali-Curung health clinic staff visit Imangara residents on request; Mungalawurru receive fortnightly visits from a health outreach service run by Anyinginyi Aboriginal Congress. The use of e-health applications has the potential to increase access to health services for diagnostic purposes, monitoring of treatment for

health conditions and health promotion, and to de-fray the costs associated with physical service provision.

Impact of upload speed on health applications: Most such communities, including those in this project, are outside the anticipated high-speed NBN fibre footprint with speeds up to 100 megabits per second and probably also outside the NBN wireless footprint, as projected in the NBN Co Corporate Plan 2011-2013. At the time of the study, the Australian Government's Australian Broadband Guarantee (ABG) scheme was subsidising the provision of a 'threshold' 6/1Mbps download/upload satellite broadband service, by meeting the full cost of premises hardware and installation. This is an interim measure, which will be replaced by next generation satellites providing 12 /1 Mbps download/upload speeds. Functionally, the initial impact of the NBN for satellite customers is likely to be felt through the improvement in available access speeds (and probably also quotas), and general enhancement of the customer experience. As time goes on, all Internet customers are likely to be presented with a greater diversity of applications, some of which will only become practicable as speeds increase. It should be kept in mind however that latency on satellite links is an absolute physical limitation for geostationary satellite services, and will continue to constrain real time two-way communications applications including video and voice conferencing to some degree.

It is unclear at present what e-health applications may be available for use with remote communities, and it is difficult to project what the implications of the continuous improvement and greater diversity of applications is likely to be for remote communities with lower upload speeds than the mainstream population. For example, if more sophisticated applications requiring higher upload speeds (or symmetrical services) become the 'norm', this may pose constraints on access to e-health by non-priority settlements outside the fibre and wireless footprint.

The use and quality of Skype and VoIP applications, which might well play a role in managing community health, may also be affected by the upload speed available. Skype, for example, requires 256 KBps to run at a medium-grade level, which would be compromised if four or more applications requiring a similar upload speed were used at the same time.

This situation could be alleviated by establishing quality of service agreements that set up queuing systems at the time of installation by the provider. Queuing systems that recognise and prioritise specific packets such as voice, a component of VoIP and Skype and likely to be part of health applications, would enable these users to 'jump the queue' ahead of others using the same Internet service.

Education: Children were a significant group of users in these communities, and participants ranked "kids' schooling" as first or second on a list of priority needs. Of the small number of children we interviewed, as well as young adults who had recently left the education system, all had some experience with computers at school, confirming schools as one of the most important points of computer and internet access for people living in remote Indigenous communities. However, young adults who had used computers at school did not necessarily continue to use computers after they had left school or in any other context, because of limited access to computers in their homes or workplaces. School was the only site of access for 40% of computer users.

While Indigenous children living in remote Australia are unlikely to have internet access at home, almost all other Australian children over the age of 12 are accessing the internet from home. The latest ABS survey (2009), found that 96% of 12-14 year olds were accessing the internet. 92% of children who reside in metropolitan and rural areas access the internet at home, compared with 86% who access the internet at school.

Further research is required to determine whether school access is sufficient or whether home access can improve overall educational outcomes for children in remote Indigenous communities. For instance, findings of a 2002 US Study into the influence of home Internet use on the academic performance of low-income children (Jackson et al 2006) indicated that: "Having a home computer has been associated with higher test scores in reading, even after controlling for family income and other factors related to reading test scores" (p.430).

COMMUNICATION NEEDS OF INDIGENOUS PEOPLE AND COMMUNITIES

Question 9: *Are there examples of the internet being used by Indigenous Australians in ways that take advantage of economic, social or cultural opportunities?*

There were a few instances of enterprise, or potential enterprise, in the HIP communities and some awareness that computers could be of assistance in furthering these opportunities. Mungalawurru has commenced a cattle business that has generated income for the community and currently employs four men from the community in full time positions. Some members of this community were interested in using computers to keep a database of stock, review finances and help with reporting. Community members were not aware of the many other potential uses such as trading and advertising where computers could help their enterprises. In the same community, an artist was interested in using the internet to liaise with the local arts organisation and to display her work.

A few men and women from the other two communities who were involved in various paid cultural and educational activities said that they would like to document and self-publish cultural materials. The manager of a youth respite service suggested that he might use a computer to keep a database of youth trajectories, tracking outcomes across five different projects. Additionally, having a computer to keep track of CDEP hours was identified as a priority need during community meetings in two communities. Given the low skill levels associated with computers opportunities in the three project communities, the opportunities to support the development of enterprise are likely to develop as people's exposure to computers increases, and their confidence and skill level develops.

Question 10. *What further initiatives should the committee consider to improve awareness within Indigenous communities of the opportunities provided by improved broadband services?*

Participants in the Home Internet Project were not necessarily aware of the choices on offer, or that subsidies are available for satellite access. This is a substantial obstacle to internet uptake. The issue of access could be resolved through an appropriate broadband assistance program that provides remote Indigenous communities with accessible information and consultation on their broadband options, and assists with the implementation of satellite broadband and Wi-Fi networks (see 1 recommendation below). The cost of computer hardware, installation and maintenance as well as internet access is a significant factor for remote-living Indigenous people, and specific subsidies and billing arrangements for smaller remote communities also require consideration to facilitate internet access.

Question 11: *What recommendations do you have for remote communities to take advantage of the progressive increase in availability of high-speed broadband?*

While proposed upgrades of the NBN will result in faster speeds and more applications for satellite customers, it will not address the issues that are currently influencing low internet in remote Australia. The potential of the NBN in remote Indigenous communities will not be realised without a new approach to installation, billing and pricing, together with a pro-active model of support. Issues of access to installation and maintenance services could be

addressed through the provision of some level of ongoing maintenance help accompanying a broadband assistance program (see 1 recommendation below).

The access barrier could be resolved through an assistance program for satellite broadband. Such a program might entail community-level solutions where connection is achieved with one or two satellite dishes per community and distributed to all dwellings via rooftop Wi-Fi transmitters, as opposed to individual household contracts for satellite infrastructure and internet. The purpose of the Wi-Fi network would be to allow anyone in the community to access the network from any building, with one contract/bill per community. Such arrangements are likely to be better suited to the unique household economics of small Indigenous communities and would provide a more efficient solution to installation where travel costs for maintenance contractors are high (see recommendation 2 below).

Technical improvements in bandwidth will in turn encourage new applications, some of which may hold substantial social value for people in remote areas. As it stands, the current scope and commercial design of the NBN will maintain the status quo in terms of fixed service retail offerings in remote areas – mass-marketed products that are known to be unattractive and problematic to Indigenous households. Funding support should be provided to Indigenous organisations to assist in the development of online services and content, including e-health and e-education programs to ensure that programs are relevant, user-friendly and culturally appropriate to central Australian Aboriginal people (see recommendation 4 below).

Question 12: *What more could be done to improve digital literacy amongst Indigenous Australians and within Indigenous communities?*

Under the current emphasis of government policy on centralisation, funding for ICT centres and training is being distributed to larger communities without any additional support for smaller communities. For a variety of reasons, mostly centred on the cost of supervision, very few centres in central Australia remain in operation (see Rennie et al 2010). Targeted programs such as Networking the Nation, TAPRIC, Backing Indigenous Ability, and the Indigenous Communications Program (ICP) have also emphasised capital rather than recurrent funding. The internet access component of the ICP, which was contracted for delivery to the Northern Territory Library Services, has been more successful in the Top End where there are established library facilities and trained library staff who are able to provide ongoing training and mentorship: only two libraries exist in remote central Australian communities.

The provision of ICT training for remote Indigenous communities, preferably in conjunction with an internet access assistance program, would assist with issues of computer literacy (see recommendation 3 below). There should also be a focus on the needs of Indigenous residents in smaller central Australian settlements to address equality of access issues in existing communications policy. Ongoing rather than ‘one-off’ computer training support and mentoring of residents in these communities would likely enhance and increase their use of the internet. Training into the uses of digital media like internet banking and shopping, using email, storing/finding photos, creating and downloading music in remote communities may have additional benefits such as improving English literacy, and encouraging new forms of enterprise, creative and cultural expression (see Thorner 2010; Kral 2010).

DEVELOPMENTS IN THE TERRESTRIAL AND SATELLITE MOBILE PHONE SECTOR

Question 14. *Are you aware of emerging technologies or initiatives that could be used to improve mobile phone coverage in regional Australia?*

Currently, mobile phone take-up amongst remote and very remote Indigenous populations is highly influenced by access to mobile phone coverage and affordability. Studies have noted the rapid take-up of prepaid mobile telephones in remote Australia (Brady & Dyson 2009, Brady & Dyson 2008, Tangentyere Council & Central Land Council 2007). However, while mobile phone coverage will go some way to providing a terrestrial option for both voice (phone) and data (Internet access) traffic, its effect is and will continue to be quite limited in central Australia. Telstra is the sole provider for terrestrial wireless broadband in much of central Australia, with no competition between providers outside Alice Springs and Yulara. Given the comparative smallness of the remote Indigenous population in market terms, it is unlikely to become a driver for increased or competitive terrestrial mobile coverage.

Mobile phone coverage for Indigenous residents of central Australia is currently limited to about 7000 people in seven discrete locations (only about 50% of the total population): Ali Curung (300 people), Alice Springs (Town Camps, other town residents; Amoonguna gets coverage – collectively 4500 people), Uluru (Mutitjulu gets coverage - 200 people), Ti Tree (Pmara Jutunta has coverage 200 people), Hermannsburg (500 people), Santa Teresa (500 people) and Yuendumu (600 people). Eralunda – a highway stop – also has coverage but there are no communities nearby. Satellite broadband is therefore the only internet option for many remote Indigenous communities and is likely to remain so.

Although none of the communities had mobile coverage, approximately 30 % of study participants had purchased mobiles for use in town. Some mobiles had been given to school-aged relatives who were staying in town so the children could ring the community payphone when they needed to contact home. A third of mobile owners were aware of, or using, their mobile for internet access – mostly music downloads and/or chat.

As with home internet access, cost is a significant factor in mobile phone take-up. A 2007 study of mobile phone use by Indigenous Alice Springs residents found that participants on Centrelink benefits were spending on average 13.5% of their income and those on CDEP were spending 8.3% of their income on their mobile phone (Tangentyere Council and the Central Land Council 2007). On average, participants were spending \$42 of their fortnightly income on their phone. These figures suggest that affordability of communications technology is likely to be a significant issue for at least half of the residents of the three outstations.

RECOMMENDATIONS

Our view is that the NBN is not a tool for development in itself; rather, practical and achievable steps need be taken to ensure that remote Indigenous communities can begin to benefit from broadband technology and this important national infrastructure.

We recommend the following measures:

1. That a **broadband assistance program** be established to serve remote Indigenous communities. The program would provide accessible information and consultation to remote Indigenous communities on their broadband options and assist with implementation of satellite broadband and Wi-Fi networks. The assistance program should also resolve related needs such as power points and protection from power surges. The program may provide some level of ongoing maintenance help.
2. Assistance programs for broadband access should include provisions for shared community **Wi-Fi networks** that can be accessed from any dwelling within remote Indigenous communities (using satellite technology for external connections where there is no mobile or fixed wireless coverage). Subsidies to retail services should

take into account **community-level account holders** and billing options, not just individual household contracts.

3. Australian Government should provide **ICT training** for remote Indigenous communities, including smaller communities to encourage . This would work best in conjunction with an internet access assistance program.
4. That funding support be provided to Indigenous organisations to assist in the **development of online services and content**, including e-health. The development of online services should be done in consultation with Indigenous organisations to ensure that content is culturally appropriate.

RELATED SUBMISSIONS

Please refer to the following submissions from our industry partners:

- Australian Communications Consumer Action Network (ACCAN), for discussion of consumer issues in remote Australia.

http://accan.org.au/index.php?option=com_content&view=category&layout=blog&id=141&Itemid=174

- The Centre for Appropriate Technology (CAT), for proposals regarding related access issues in remote Australia.

<http://www.icat.org.au/default.asp?action=article&ID=105>

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