

# **Slow Connections - Building Non-urban infrastructure online**

By Danny Butt  
bmdjb@twp.ac.nz

Director, ICVP  
<http://www.icvp.com>

Digital Media Coordinator, Department of Media Arts, The Waikato Polytechnic  
<http://www.twp.ac.nz/mediarts>

This paper looks at some key principles of electronic communications that are driving economic and cultural change, and investigates their implications for community maintenance in New Zealand non-urban regions. As well as articulating some ideas about the nature of the "digital divide", I'll be talking about some of the projects underway near where I live in Raglan, a small town on the West Coast of the North Island. Hopefully, this information will be useful for others attempting to work with Internet technologies in a development setting, and provide some impetus for policy-makers to encourage sustainable models of development in these areas.

### **What is the digital divide?**

Many economists and theorists have noted the trend in Western capitalism toward information replacing materials as a primary holder of value (Shapiro and Varian 1998). This development also gives rise to new definitions of wealth and opportunity in those societies. Some research has indicated that underneath these new definitions the gap between rich and poor is wider giving rise to the term "the digital divide".

While it's sometimes expressed as a distinction between "information-haves" and "information have-nots", there's probably a need for more than the opportunity to download MP3s from the U.S. to be able to participate in the "new economy". Even so, raw access to the Internet is obviously going to be a baseline for regional communities to be able to thrive in this environment.

A lot of effort has gone into attempting to map this gap along race, class, gender, and geographic lines. It's the last one I want to focus on here. Is the digital divide spatial? Are non-urban areas falling behind due to the impact of this new medium? And if so, what can we do about it?

### **The Internet and regional development**

When the Internet first gained popularity as a general communications medium, it promised the end of the tyranny of scale and distance. It would facilitate telework and re-empower small communities and organisations (see for example the work of 'applied futurist' Jack Nilles). The Internet would enable small businesses to expand their geographic reach and compete on equal terms with larger firms, unencumbered by the offline distribution channels which large firms exploit to their advantage. Instead, research points to an increased concentration of wealth and opportunity in the urban regions.

Urban areas have always been first to receive fatter pipes and faster Internet access technologies. According to an April 2000 US Dept. of Commerce and Agriculture report, only 5% of towns with populations of 10,000 or fewer have cable modem service, and DSL options are similarly lacking. There are no numbers on New Zealand coverage, but with less cable penetration and Telecom's JetStream (ADSL) being a recent service, the numbers are likely to be worse. The KiwiShare hasn't made any requirements for Telecom to provide more than basic voice services in rural areas, and Brian Gaynor notes that former Telecom CEO Roderick Deane's strategy of low investment to maximise shareholder dividends has left NZ with an outdated landline infrastructure. Satellite options are only just reached NZ and little is known about their level of adoption.

One of the obvious barriers is cost. Despite access being cheaper than just about anywhere else in the world, costs are not insignificant. Computers are still cost an average of \$2000, well beyond the reach of many rural families. AC Nielsen research carried out in the middle of 1999 reports that just over 15 per cent of people earning \$30,000 or less have access to the Internet,

compared with 30 per cent of people earning between \$30,000 and \$60,000, and nearly 60 per cent of people earning more than \$80,000.

Some of the barriers are more mundane - such as the average electric fence! Stuart Parker, engineering manager at electric fence manufacturer Gallagher Industries, says the company "is concerned that electric fences can create magnetic fields and interfere with the Internet."

Other concerns are about the relevance of online information - despite a few attempts at rural information portals in NZ, the bulk of information online reflects the popularisation of the internet by urban communities. A recent report by The Children's Partnership in the US claims that only six percent of popular websites examined had information useful to low-income users.

A couple of respondents to surveys we did in Raglan noted that they 'couldn't see what all the fuss was about' with the web. While those with family at a distance or overseas found e-mail a useful tool, in most cases there remains a strong lack of a value proposition for rural people. The Pew Center found that 57 percent of US non-Internet users are not interested in getting online, and they tend to be less educated and living in rural areas. Perhaps there are some senses in which 'the digital divide' may be a concern of urban Internet users who believe everyone should 'get with the program'

An overall picture of the Digital Divide is about overall access to have wealth and opportunity in an online era. Access is only a part of this picture. It's also about content, education and other tools for "cultural maintenance". Addressing the digital divide has to include that 57% who don't see a place for themselves online.

### **Increased communications flows result in greater regional disparity**

We've become used to the idea that the integration of New Zealand into a global economy has resulted in sharply divergent economic outcomes for particular regions or localities (see for example Le Heron and Pawson, 1996). Pawson and Scott (1992) have identified how the state withdrawing from its traditional employer role had disproportionately strong impacts on rural and urban working class areas.

The speed of this shift is now quicker, less mediated by regional state infrastructure. Localities are increasingly interconnected through communications channels of all varieties, sharply increasing movement of people, information, products, services and capital. Locally-based businesses and organisations increasingly market themselves outside of their region to take advantage of external capital. At the same time, they promote themselves to a local market which also has wider choices and connections.

There are winners and losers in this scenario. If your locality happens to have cultural or physical assets that are valued in the global communication/capital flows, you're going to be better off. For example, Census data shows that in the Auckland region Coastal Towns enjoyed 10% of the regional population growth between 1981-1991, compared to rural towns with 2% (Urban areas had 70%). The mass-mediated, international marketplace for coastal land in relatively stable, English-speaking democracies is likely to be a factor in these figures.

### **Net flows**

These mass media and other communications connections (what media theorist McKenzie Wark calls "vectors") have ultimately facilitated the travel of wealth and opportunity away from non-urban areas, in relative terms. As might be expected, most research on the state of e-

commerce supports the view that capital is centralising - not diversifying - in the Internet age. A recent report by Forrester Research indicates that the rise of electronic commerce is increasing the concentration of wealth and reducing the economic share of small business. Forrester's Charlene Li notes "Offline, small, and medium-sized retailers have a 50 percent share of retail revenues. In contrast, they are barely capturing 9 percent of Web sales today. This picture is only going to get worse as the Wal-Marting of America continues." Adamic & Huberman have also found that "distribution of all website visitors follows a universal power law, characteristic of winner-take-all markets".

It doesn't matter that these communities have access to the wealth of information online - they can't become "information-rich" browsing content. There's a lot of talk about how the Internet "disintermediates" between consumers and the goods and services they desire. But the it disintermediates anything, it's the barriers between money and more money. Basically, the net is sucking out more resources than it's putting in to regional areas.

Of course, there's no stopping the Internet, and first world usage continues to expand at a faster rate than any previous medium. But to acknowledge that the Internet is, on the whole, disadvantaging non-urban areas isn't to advocate ignoring it. However, I think we need to assess, in ethnographer Eric Michaels' terms, the *practicality* of encouraging online participation from a *local* perspective: is there enough interest, skill and motivation in offline members of non-urban communities to participate in this medium? Or are our efforts in this area destined to add to the roll of well-meaning regional advancement projects, "the discarded skeletons of which litter the countryside"? Don Richards notes that in the development sector "we already have far too many stories of... Internet services, that benefit only elite researchers and institutional officials".

There's plenty of history to show that rural people will adopt new technologies if they solve practical problems or facilitate community in relevant ways. Non-urban areas have been quick to adopt the the fax machine. The party line telephone system was perhaps the first common form of communication technology in many country areas. Party line phones (shared lines) were unheard of in the city, but filled a vital communication link in rural and regional areas. Anderson and Simpson give a clue as to their crucial function when they note that "As in all communities, there were always a number of women and even a few men who felt the need to pick up the phone and listen in to others' conversations".

While all of these technologies have been quickly adopted in regional centers, voice communications in particular have made it easy for geographic communities to cohere through the technology. If we want people in regional areas to participate in Internet culture, it seems important to find a way to facilitate this sense of community online.

### **Online community and offline communities**

Of course, "community" is one of the great buzzwords of the Internet, and the establishment of virtual communities has driven much of the Net's development. Internet communities are, by and large, chosen around areas of shared interest. But the word "community" - historically a geographic phenomenon - implies that we share more than mere interest with other members of that community. In sharing land and living spaces we share bonds and responsibilities which are not "opt-in". This isn't to say that it's less valuable than what we usually term a community, or that the social connections aren't as real or affecting as those in "real communities". But as San Francisco technology commentator Paulina Borsook puts it, in the new Internet age "community" is coming to mean "a narrow-cast bunch of suckers you can market to" (Werthiem 2000). The

57% not wanting to go online are probably right in thinking that the online community doesn't have that much to offer them.

On the other hand, the technologies produced to facilitate online community are well suited for offline communities to use to achieve their objectives. This tension has been one of the major factors in the development of Raglan.net.

### **Local Responses**

Raglan.net is a project attempting to get the Internet working for Raglan. It was set up as a personal project in 1998 by Kate Bailey-Hellen, who saw an opportunity to increase her skills in an area showing high employment growth, and to meet online requests for information about the Raglan area, which has a fast-growing tourist population. After a year of working on the project, her commitment was flagging in the face of need for paid employment.

I was able to convince Kate of the importance of her infrastructure, and we were able to source some funding for a part time position for Kate to maintain the site and begin solidifying it as a hub for the Raglan community.

Our main activities were:

- Developing formal relationships with community groups for use of Raglan.net as a communications channel, especially the local school, community house, iwi, and sports clubs. This included establishing physical drop-off locations for information to go on the site.
- Co-ordinating online tourist information for the Raglan area, to establish in a complete information repository for tourists coming to Raglan. Tourism is a major economic sector in Raglan. Visits have increased 200% over the six-month period, now averaging 150 unique visitors per day.
- Establishing a differential pricing structure for groups wishing to advertise on Raglan.net. for Corporate, Local Business, Governmental, and Non-profit. This structure will be instrumental in allowing Raglan.net to become economically self-sustaining while maintaining access for community organisations.
- Securing a sponsorship agreement for ongoing free website hosting for online community information.
- A workshop in July/August '00 which developing skills in using and publishing material on the Internet, pitched at people without prior experience. This was also an opportunity to gauge residents needs in online infrastructure.

### **Conclusions**

Our findings are still being processed, but overall the activities have been successful. We have been able to identify a number of tentative confirmations of overseas research into regional online development. Space doesn't allow in-depth explorations, but I'll conclude with some broad-brush recommendations for future investigations and work. These themes are common in much of the research related to community development in the Internet era:

- **Network the humans before the machines.** Humans create "multiplier effects" in information distribution. Computers don't.

- **Work with existing human networks.** Human networks are the hardest to build, so if you find one in operation, you've done half the work!
- **If you're not inside the community, stay an outsider, and use this power.** External agents can only guide, not drive community development.
- **Resource people.** Le Blanc (1999) has indicated that the ratio of funds earmarked for human resource is the best predictor of the sustainability of online development projects.
- **Let local issues drive the project.** Each community is different, with different networks and different needs.

While it all sounds like common sense, they're hard principles to execute effectively. But they've been identified as important for both community and commercial projects. There have already been too many expensive failures of Internet ventures in both sectors. There's plenty of documentation of how the Internet is a "people-centered" medium. If we're going to be serious about bridging the digital divide, we can't afford to ignore the mounting evidence that people have to be placed first.

## References

- Adamic, L. & Huberman, B. 1999 *The Nature of Markets in the World Wide Web* Xerox Palo Alto Research Center, Palo Alto
- Anderson, B & Simpson, L. 1999 *BridgIT – Bridging the IT gap for rural women* Queensland University of Technology, Brisbane
- Gaynor, B. 2000 "Telecom shift a dilemma for Gattung", *New Zealand Herald* (19/8/2000)
- Le Blanc, J. 1999 "Demand Aggregation and the Digital Divide", *Communications Policy and Practice: The Digital Beat*, vol.1 no.20, Benton Foundation, Washington
- Le Heron and Pawson, eds. 1996 *Changing Places - New Zealand in the nineties*. Longman Paul, Auckland
- Lenhart, A., et al. 2000, *Who's not online: 57% of those without Internet access say they do not plan to log on*, Pew Internet & American Life Project, Washington.
- Li, Charlene, "Local Commerce goes National", quoted in Michael Pastore, "E-Commerce Hurting the Little Guy" [[http://ecommerce.internet.com/opinions/print/0,,3551\\_169341,00.html](http://ecommerce.internet.com/opinions/print/0,,3551_169341,00.html)]
- Michaels, E. 1996 "For a Cultural Future", in *Bad Aboriginal Art: Tradition, Media and Technological Horizons* University of Minnesota Press, Minneapolis
- Mora, F., et al *Online Content for Low-Income and Underserved Americans: The Digital Divide's New Frontier* (The Children's Partnership 2000)
- Nilles, J. 1994 *Making Telecommuting Happen, A Guide for Telemanagers & Telecommuters*. Jala International Inc.
- Pawson, E. and Scott, G. 1992, 'The Regional Consequences of Economic Restructuring: The West Coast, New Zealand (1984-1991)', *Journal of Rural Studies*, vol.1, no.2, pp.33-42.
- Shapiro, C and Varian, H. 1998 *Information Rules: A Strategic Guide to the Network Economy* Harvard Business School Press, Boston,
- Wark, McKenzie 1994, *Virtual Geography*, University of Indiana Press, Bloomington

Werheim, M. 2000 "The Community is the Brand", *L.A. Weekly Online*,  
[<http://www.laweekly.com/ink/00/28/cyber-werheim.shtml>]