Community Networking and Civic Participation in Canada: A Background Paper

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About CRACIN

The Canadian Research Alliance for Community Innovation and Networking (CRACIN) is a four-year partnership between community informatics researchers, community networking practitioners and federal government policy specialists, funded by a grant from the Social Sciences and Humanities Research Council (SSHRC). CRACIN brings together researchers and practitioners from across Canada, and internationally, to undertake case studies and thematic research on enabling the uses of new information and communication technologies (ICTs) by communities and through community-based organizations, and to investigate Canada’s national programs and policies for promoting the development and public accessibility of digitally enabled activities and services.

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Introduction

Social scientists and policy makers have been grappling for a number of decades with an apparent decline in civic participation in many western liberal democracies (Putnam, 2000). The mass media and the rise of new information and communication technologies (ICTs) are often implicated in explanations for the decline (Putnam, 2000; Sunstein, 2001; Kraut et al., 1998). On the other hand, some have claimed that new ICTs hold the potential to help reverse this trend by revitalizing and strengthening democratic participation and community involvement (Etzioni, 2004; Lévy, 2001; Rheingold, 2000). This paper explores the relationship between new ICTs and civic participation by examining the role played by specific kinds of ICT-enabled community organizations, namely community networks, in fostering civic participation in local, geographically-based communities in Canada. It will be shown that community networks foster civic participation in the emerging knowledge-based economy and society (KBES) by providing both access to the internet (‘connectedness’ in the technical sense) and opportunities for its effective use (Gurstein, 2004) by individuals and communities to communicate and interact with one another electronically (‘connectedness’ in the social sense). The paper documents community networking’s achievements in civic participation by reviewing the growing international and Canadian research literature on community networks, and by examining a number of case studies from an on-going research project of the Canadian Research Alliance for Community Innovation and Networking (CRACIN). The paper also shows that, today, community networks face a number of challenges that jeopardize their ability to sustain and advance the gains made in recent years.

Part I: Conceptual and Methodological Overview

Key Terms and Concepts

Briefly stated, community networks are community-based ICT organizations committed to universal access to the internet and to the use of ICT systems to promote local economic and social development, civic participation and community learning. A number of definitions are also offered in the growing academic literature on community networks. Schuler, for example, defines community networks as enabling electronic environments that promote citizen participation in community affairs (Schuler, 2000). Gurstein describes a community network as “a locally-based, locally-driven communication and information system” designed to enable “community processes and [achieve] community objectives” (Gurstein, 2004). Carroll and Rosson (2003) define community networks as community-based ICT initiatives that “support interaction among neighbours” by facilitating “information dissemination, discussion, and joint activity pertaining to municipal government, public schools, civic groups, local events, community issues and concerns, commerce and economic development, and social services” (381).
While community networks can take a number of forms, ranging from simple public internet access sites to full service community technology centres and interactive web-based community information systems, they share in common the broad ideals of promoting economic and social participation by using ICTs to enhance the informational resources available to people living together in compact territories – cities, towns, and neighbourhoods (Gurstein, 2000; Keeble and Loader, 2001b). Whatever their exact form, community networks are generally distinguished by the following features:

- run by and for the local community;
- address the information and communication needs of everyday life;
- foster equal access to new ICTs at little or no cost;
- view community members as active producers, as opposed to passive consumers, of local information and content;
- endeavor to strengthen the social cohesion of the local community;
- emphasize the development of proximate, geographically-based communities over issue-oriented ‘communities of interest’ or ‘virtual communities’;
- stress the importance of the “lived physical community” as the very center of individual and family well-being;
- are committed to the judicious use of ICTs for social amelioration and social change, to overcome social exclusion, poverty, illiteracy, alienation, etc.

(AFCN, 1997; Gurstein, 2004; Schuler and Day, 2004b)

Among the thousands of community networking initiatives worldwide, some of the better known, most heavily documented and, in some cases, successful examples of community networks include the Digital City Amsterdam (De Digitale Stad), the Seattle Community Network, Blacksburg Electronic Village (Virginia), Milan Community Network (Rete Civica di Milano), Big Sky Telegraph network (Montana), and the Public Electronic Network (PEN) of Santa Monica. Well-documented Canadian examples include, among others, Ottawa’s National Capital FreeNet (NCF), the Vancouver Community Network (VCN), the Chebucto Community Network (CCN) in Halifax, Communautique in Montreal, the Western Valley Community Network, the Victoria FreeNet, and the Kuh-ke-nah Network of Smart First Nations (K-Net) in northwestern Ontario.

Civic participation refers to individuals’ active engagement with and involvement in their communities. Common forms of civic participation include, among other things: donating time and/or money to charitable organizations; belonging to and/or participating in community groups; attending public meetings; voting in elections; attending religious
services; and maintaining social networks with friends, neighbours and co-workers. Civic participation can also be broken down into three distinct categories or areas of participation: community service (volunteering and charitable work); political participation (voting, attending public meetings, etc.); and cultural participation (participating in arts and crafts guilds or cultural groups, communal storytelling, etc.). Civic participation is a key determinant and indicator of both individual and community development and well-being. Participation in such activities is also an important indicator of social capital, as it signals a certain level of trust in people, confidence in public institutions, and a sense of belonging on the part of community members.

**Social capital** refers to the social networks maintained by individuals and within communities, including ties to family, friends, neighbours, local businesses and co-workers, and the norms of reciprocity and trust which arise from them (Putnam, 2000: 19). High levels of social capital have been linked to a variety of positive benefits, including economic growth, civic participation and individual and community well-being (Woolcock, 2001). Social capital and civic participation are mutually reinforcing. Face-to-face interaction among neighbours and community members involving deliberative and collaborative work within voluntary organizations fosters interpersonal trust and social norms of tolerance and cooperation.

**Research Methodology: Community Informatics and the Social Shaping of ICTs**

The broad methodological approach reflected in this paper is that of *community informatics*. As an emerging interdisciplinary research field, community informatics is concerned with the study of the enabling uses of information and communication technologies in communities – how ICTs can help achieve a community’s social, economic, cultural, and political goals (Gurstein 2000). Community informatics brings together the perspectives of a variety of stakeholders – community activists and groups, policymakers, users/citizens, artists, and a range of academics working across disciplines (communication studies, cultural studies, computer science, information studies, sociology, political science, urban studies and geography). A community informatics approach encompasses six areas of concern with respect to community-based applications of ICTs: access facilities; service design; tele-centre or community access centre design; design of the community system; on-line service delivery; and on-line support. Applications of community informatics include community internet access, community information, on-line civic participation, on-line community service delivery, community economic development, education/training/learning networks, and tele-work. A rich community informatics literature has begun to emerge covering a broad range of issues and focusing on case studies in North America, Europe, Latin America, Africa, Asia and Australia (Gurstein, 2000; Keeble and Loader, 2001b; McIver, 2003; Taylor, 2004).  

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1 The inaugural issue of the *Journal of Community Informatics* was launched in September, 2004, under the editorship of Michael Gurstein.
Community informatics research and practice are also informed, either directly or indirectly, by a certain theoretical understanding of the development of technology that recognizes the *social shaping of technology*. Theories of the social shaping or *social construction* of technology, as exemplified in the works of theorists like Bijker and Latour, reject technological determinism, which tends to treat technology as an autonomous force acting *on* society in a one-way relationship, in favour of the view that society and technology are mutually conditioning (MacKenzie and Wajcman, 1999). Thus, technological systems and artifacts are shaped by broad social forces such as class, race and gender relations (Winner, 1999), as well as by more discrete factors like the “culture” of the scientific and engineering professions (Ceruzzi, 1999). This being the case, community informatics research and practice treat information and communication technology not as something that *happens to* communities - to which they are forced adapt - but, rather, as tools that have the potential to be socially appropriated or democratically shaped to meet the self-defined needs and goals of communities themselves. Community informatics research bears witness to the ways in which, at times against heavy odds, civil society organizations, and communities are “shaping the network society” (Schuler and Day, 2004a).

Community informatics methodologies and evaluation frameworks for assessing community networking projects, including their impact on civic participation, are still undergoing development and refinement (O’Neill, 2002). O’Neill’s recent review of such methodologies and evaluation frameworks suggests dozens of candidates that might serve as useful indicators of civic participation and social capital in relation to community networking initiatives, which she groups according to a number of broader categories. Figure 1 contains a list of selected indicators adapted from her review. The following review of existing research on community networking and civic participation draws attention to a number of these indicators.
Figure 1. Indictors of Civic Participation in Community Networking

1. Community involvement
   - Levels of online interaction
   - Rates of participation in community groups
   - Density of social networks
2. Access facilities
   - ICT penetration rates (household, school, etc.)
   - Public ICT access facilities
3. Usage information
   - listserv and bulletin board postings
   - two-way information flow
   - user characteristics
4. Attitudes and awareness
   - sense of place
   - self-efficacy
5. Information content and structure
   - depth and quantity of community information
   - diversity of content
   - public opportunities to post content
6. Operation and management
   - Implementation (top-down or bottom-up)
   - Funding sources
   - Volunteer participation
   - Community outreach

Part II: Community Networking in Canada -
A Brief History and Overview

Community networking is rooted in a number of social and technological developments – community activism and the emergence of public computing, in particular – which began to converge in the 1970s (Clement, 1981; Kubicek and Wagner, 2002). Community networking practitioners set out to preserve and promote public interest concerns in the field of computing and in the development of the emerging networked information infrastructure. In addition, community networking initiatives and organizations experimented with the use of network technology for the purposes of social amelioration and social change. On-line community bulletin board services (BBS) in the U.S., such as Berkeley’s Community Memory project and the Cleveland Free-Net, in the 1970s and 80s provided templates for the explosive growth in community networking
that took place in the early 1990s as, first, the personal computer, and, shortly thereafter, the modem became common in North American homes. One of the first and, initially, most successful community networks in Canada was the National Capital FreeNet (NCF), which was established in 1992 as a community-based, non-profit cooperative project by a group of enthusiastic volunteers, Carleton University professors, and private industry donors. In addition to proving free dial-up internet access, NCF soon offered access to information posted by over 250 community organizations and government agencies and hosted listservs for dozens of specialized interest groups. Modeled on this and other successful initiatives, dozens of other community networks were established in communities across Canada in the early nineties. By the mid-nineties, 35 community networks were serving between 250,000 and 600,000 members, which Shade identifies as a high-water mark for community networking in Canada (Shade, 2002). Typical services offered by these networks included free or low-cost dial-up internet access, email accounts, bulletin boards and listservs, access to public computer terminals, ICT training sessions, content development and, later, web hosting and on-line training and discussions forums.

Community networks in Canada take a variety of organizational forms, but are typically comprised of a few paid staff members, a voluntary board of directors, and a larger group of volunteers who participate in activities such as training, technical support, fundraising and content development. Community networks are often affiliated with public institutions such as universities and public libraries, as well as with non-profit community organizations such as social service agencies. Funding and other forms of material support are typically provided through a pastiche of membership fees, government programs, cash and in-kind donations, volunteer labour, and equipment donations from corporate benefactors. The one constant across all community networks is the contingent and unstable nature of this funding and support, which compels staff members to constantly engage in fundraising and program and grant application activities and to continuously recruit, train, motivate and renew their volunteer base, leading to high levels of stress and burn-out among community networking practitioners (Moll and Shade, 2001: 166).

In the mid-1990s, with the rapid growth and prominence of the internet, many leading industrialized nations developed policies and funding programs to promote public access to the internet and ameliorate the emerging ‘digital divides’ (Hague and Loader, 1999; Loader, 1998). In Canada this was pursued most visibly through the federal Connecting Canadians agenda, the goal of which was to make Canada “the most connected nation on earth”. Led by Industry Canada, the agenda included initiatives like SchoolNet, the Community Access Program (CAP) and Urban CAP, VoNet, LibraryNet, and Smart Communities programs. Such programs aimed primarily at providing technical connectedness or access to the internet, and, in particular, targeted groups like youth, low income individuals and families, and areas underserved by the existing telecommunications infrastructure. Other federal programs have pursued related goals, such as rural broadband connectivity, on-line training and education, and the development of Canadian content on-line (e.g. Industry Canada’s Broadband for Rural and Northern Development (BRAND), Human Resource Development Canada’s
Community Learning Networks (CLN) Initiative, and Canadian Heritage’s Canadian Content On-line program). While these programs have complex and sometimes contradictory objectives, they all share the declared aim of stimulating economic activity, civic participation, and promoting social cohesion within and between Canadian communities. Altogether, over $400 million have been spent through these programs in support of some 10,000 community-based ICT initiatives.

Community networks were major recipients of funding under the Connecting Canadians initiative and became lynchpins in the development and success of many projects. Community networks were natural partners for community organizations such as libraries and community centres seeking to establish public internet access sites under the CAP program and, today, community networks manage hundreds of such sites across the country. In addition, community networks have been active providing computer training, technical support, and content development for many CAP sites and various VolNet, LibraryNet and SchoolNet projects. In 1997, a Memorandum of Understanding was signed between Industry Canada and Telecommunities Canada, an umbrella organization representing community networks across the country, which identified the latter as an advisor to the federal government on internet access issues, formally recognizing the important place of community networks in the development of Canada’s digital information infrastructure. While the involvement of community networks in the Connecting Canadians initiative has not been without its tensions, particularly around issues of access philosophy, funding and sustainability, community networks have played a pivotal role in ensuring its success (Moll and Shade, 2001). A recent evaluation of CAP concluded that the program continues to provide vital opportunities for Canadians, particularly those without access to computers and the internet at home, to acquire skills related to the use of ICTs, better integrate into their communities, and improve their economic and employment status (Industry Canada, 2004).

For all their success, community networking initiatives in Canada appear to stand at a crossroads. With household internet access rates at 65 percent, thanks to the declining cost of computer hardware and commercial internet access, the continuing relevance and necessity of public internet access services, (many of which were launched in the mid-1990s when Internet penetration rates were much lower) have been called into question. Federal and provincial governments appear poised to withdraw significantly from supporting community networking and public internet access. The major Connecting Canadians programs, such as CAP, SchoolNet, BRAND and NSI are being wound down or closed. The 2004 Federal Budget announced a two-year extension on CAP and SchoolNet, but with greatly reduced funding and a new strategic direction away from general public access to focus more narrowly on “digital divide” communities. The BRAND program has allocated all available funds, despite the fact that thousands of rural and remote communities remain unconnected. With the seemingly imminent withdrawal of the federal government from community networking and public internet access promotion, thousands of community-based ICT initiatives across Canada face a crisis of sustainability, since most of them rely heavily on government funding. In response to a recent survey, fully one third of CAP sites said that they would be forced to close if the program were cancelled. Waning government interest in community networking threatens
to undermine the significant progress recently made in closing the “digital divide” and enabling individuals and communities to access the benefits of new ICTs.

Part III: Civic Participation in Canada

Recent Data and Trends

While there is a dearth of historical data, a number of recent studies have shed light on civic participation in Canada. The 2003 Statistics Canada General Social Survey on Social Engagement (Minister of Industry, 2004) and the National Survey on Volunteering, Giving and Participating (NSVGP), conducted in 1997 and 2000 (Minister of Industry, 1997; Canadian Centre for Philanthropy, 2000), have revealed a number of patterns and trends. Canada appears not to have suffered the same precipitous decline in civic participation and social capital that Putnam found among American citizens over the last few decades. There is little indication that, with the exception of notable declines in formal political participation, civic participation in general is in steep decline. According to the 2003 Statistics Canada survey, 60 percent respondents belonged to at least one community group, including recreational and sports clubs, trade unions, cultural or religious groups, and school, neighbourhood or community service organizations. A smaller percentage of the population reported participating in political activities. While 28 percent signed a petition and 26 per cent sought information on a political issue, barely one-fifth had attended a public meeting, and only 13 per cent expressed political views by contacting a newspaper or politician. Many other studies and surveys have found a marked decline in formal political participation in Canada as well, as measured by such things as voter turnout and membership in political parties (Statistics Canada, 2003). In addition, respondents reported relatively extensive social networks among family, friends and neighbours and a majority reported a strong sense of belonging to their local community (Statistics Canada, 2003).

Having said that, while the data indicate that perhaps half of Canadians are at least somewhat engaged in civic life, when measured and quantified in terms of the time, effort and money donated to civic groups and causes by individuals, it appears that a much smaller group of Canadians – roughly 25 percent of all volunteers - are responsible for contributing the lion’s share. This group has been referred to as Canada’s “civic core” (Reed and Selbee, 2000). Furthermore, this “civic core” is a relatively unrepresentative group of Canadians who tend, on average, to be middle-aged, well-educated, and affluent (Reed and Selbee, 2000). The Statistics Canada survey also confirmed that individual levels of community and political participation were positively correlated with increased household income and educational attainment. Such findings suggest that Canada’s “civic core” is in need of support and enlargement by, for example, overcoming some of the typical barriers that impede civic participation, including economic insecurity, lack of information about opportunities to participate, and lack of time. Community networks, as we shall see below, have a role to play in reducing such barriers.
Part IV: ICTs and Civic Participation

A Brief Literature Review

What role, if any, has been played by new ICTs in producing or ameliorating these patterns and trends in civic participation? There is a lively debate among social scientists, media and communication scholars, and specialists in computer-mediated communication (CMC) about the nature of the impact of new ICTs on civic participation and social capital, with a particular emphasis on the internet. Quan-Haase and Wellman usefully categorize the interlocutors in the debate according to three basic positions with regard to the impact of new ICTs on civic participation: transformative; diminishing; and supplementary (Quan-Haase and Wellman, 2004).

Optimists argue that the internet has transformative potential vis a vis social capital in so far it makes widely available increasingly powerful yet inexpensive tools for interpersonal communication, for accessing, producing and sharing information, and for overcoming the obstacles to developing and maintaining communities and social networks imposed by time, geography and distance (de Kerckhove, 1997; Lévy, 2001; Rheingold, 2000). Each anticipates a revival of community and social capital based on the tools of connectivity. Authors like Morris and Grossman celebrate the potential of the internet to revive and revitalize democratic politics by empowering citizens with access to more information with which to hold politicians accountable and on which to base electoral choices (Grossman, 1995; Morris, 2000).

On the other hand, others argue that new ICTs like the internet are eroding and diminishing social capital and civic participation in both qualitative and quantitative terms. Nie, Hillygus, and Ebring (2002), Kraut et al (1998) and Dreyfus (2001) explore the psychologically dissociative and alienating effects of internet use. Putnam and Sunstein, meanwhile, warn that the internet’s tendency to foster the development of virtual ‘communities of interest’ at the expense of face-to-face geographic ones will lead to the balkanization of society into inward-looking groups of like-minded individuals who know more and more about less and less (Putnam, 2000; Sunstein, 2001). The impact of the internet on democratic politics and participation has also come under scrutiny. Norris, and Bimber, for example, caution that there is little convincing evidence that the internet stimulates political participation (Bimber, 2003; Norris, 2001). In fact, rather than recruiting and mobilizing new participants into the political process from among the disaffected, they argue that the internet threatens to reinforce the activities of the already politically active, who tend to come disproportionately from the ranks of the affluent and well-educated (Norris, 2001, 4). Much of the Canadian research on the impact of new technologies on political participation dovetails with that of Bimber and Norris (Barney, 1996; Cross, 1998; Gidengil et al, 2004). Echoing Norris, Gidengil et al argue that “[r]ather than increasing the political awareness of poorer, less educated Canadians, Internet usage provides an additional source of information for those who already pay close attention to politics. […] Those who are tuned out do not use the Internet to tune in.” (38).
The rapid migration of key aspects of economic, social and political life into cyberspace also raises the spectre of the ‘digital divide’ and the social exclusion of those who remain unconnected. As authors like Castells (2001), Norris (2001), and Warschauer (2003) point out, without access to the tools of computer-mediated communication (CMC) or the skills and confidence to use them effectively, a significant portion of the population of wired nations, not to mention most of the developing world, is threatened with ‘digital exclusion’. As recently as 2000, for example, 42 percent of Canadians surveyed had never used the internet, and of these, 67 percent had never used a computer (Doody, Aizlewood and Bourdeau, 2003). Research also shows that the unconnected are typically from socially marginalized groups, including low-income families, aboriginals, new immigrants and the elderly.

A third approach to the question of the impact of new ICTs on civic participation and social life views them as supplementing social networking and interaction conducted off-line. Barry Wellman and a variety of collaborators have authored numerous studies showing how internet use supplements existing social relationships and activities by facilitating coordination and communication within social networks, and, rather than displacing them, simply extends those relationships and activities into cyberspace (Quan-Haase, Wellman, Witte and Hampton, 2002).

While questions about the impact of internet use on civic participation and social capital have inspired insightful research and stimulating debate, the issue of whether or not it is, generally speaking, good or bad for communities is increasingly moot, as internet use becomes a pervasive fact of everyday life for the majority of Canadians. For those with an interest in sustaining and developing local communities, the focus must be on distinguishing the ways in which the internet can and does support civic participation and social cohesion from those ways in which it undermines and erodes them, and on fostering its development and use to support the former. One generally agreed upon approach is to encourage the development of community networks.

**Part IV: Community Networking and Civic Participation**

**International and Canadian Research Perspectives and Case Studies**

While debate continues regarding the broad civic implications of the internet, there is considerably less doubt and skepticism with regard to the contributions to civic participation and social capital made by community networks. Much of the concern about the detrimental impact of internet use on civic participation and community stems from concerns about the displacement of face-to-face social interaction within proximate communities by faceless and placeless on-line interaction within virtual communities. Given that community networks strive, by definition, to use ICTs to increase civic
participation and social cohesion within local, proximate communities, many of the aforementioned concerns do not readily apply.

Rather than see civic participation as one among many other outcomes of community networking, most community networking practitioners view civic participation as both a central tool and goal of community networking. The best practices in community networking treat community members as active designers of the network and producers of local content, and strive, through training and other forms of support, to help transform them into skilled agents in the use of ICTs to pursue individual and collective goals (Gurstein, 2004; Pinkett, 2003:366; Ramirez et al, 2002; Silver, 2004).

The following review of international and Canadian research highlights three main aspects of civic participation in community networking practice:

1. **Community networks as catalysts of local civic participation**
   - Information and services, and their impacts, provided by community networks to foster local civic participation, as well as their uptake and use by the community (e.g. local information, ICT access and training, service directories, discussion forums, cultural content, etc.);

2. **Community networks as sites of civic participation**
   - How community networks facilitate civic participation in the development, management, operation and evaluation of the networks themselves (e.g. community participation in network governance and design, recruitment of technical volunteers, community participation in producing content, etc.); and

3. **Community network involvement in broader ICT policy making and governance**
   - How community networks have inserted themselves into ICT public policy making and governance at the regional, national and international levels.

**International Research on Community Networking and Civic Participation**

A growing body of international research and academic literature documents the civic participation practices and experiences of community networks in the United States,
Europe, South America, Africa and Asia. Blacksburg Electronic Village (BEV) in Virginia is one of the most heavily documented U.S. examples. Launched in partnership by Virginia Tech University, Bell Atlantic, and the town of Blacksburg, Virginia in 1993, the BEV grew rapidly throughout the 1990s to serve the town’s 36,000 residents and the surrounding area. The network was designed to provide citizens with access to information about local products and services, and to enable citizens to communicate amongst themselves and with local government about issues of concern. The base of BEV users grew rapidly at the outset, with one-third of the town’s residents signing up for accounts within less than two years of its launch (Silver, 2004:312). A variety of successful initiatives and services helped to stimulate local participation in the network, and numerous studies have since documented various ways in which it stimulated civic participation and helped to build local social capital (Carroll and Rosson, 2003; Kavanaugh, 1999; Kavanaugh and Patterson, 2002; Kavanaugh, Cohill and Patterson, 2000). According to Carroll and Rosson, the “BEV-news” listserv, for example, became an important “channel for general social support and interaction (e.g., sharing successes or problems with community organizations)” for BEV users. Similarly, a more specialized online seniors group developed a rich set of online information and support services for elderly residents of Blacksburg that enabled them to interact more frequently and conveniently amongst themselves and with others in the community (Carroll and Rosson, 2003:384-5). A local school board mailing list was also successful at keeping parents informed and engaged about local school and educational issues, prompting more parents to become actively involved in local education politics (Kavanaugh, 1999). These and other initiatives earned BEV national attention in the U.S. news media in the late 1990s.

While often touted as a model of what community networks can accomplish with respect to civic participation, the effects of the BEV are not easily generalizable to all communities, as a number of researchers have pointed out (Kavanaugh and Patterson, 2002). The town of Blacksburg has many characteristics making it highly favourable for producing the kinds of outcomes described above, including the relative affluence, existing social capital and high level of education of its residents compared to surrounding areas, and the fact that, as a university town, it was populated by many “early-adopters” of technology keen to experiment with innovative uses. Furthermore, it is also worth noting that a gradual decline in the vitality of the BEV network has been

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observed recently in terms of the amount of civic participation and relevant local content, with some commentators citing as explanations the ‘top down’ management approach and predominantly commercial vision of the network adopted by the three institutional partners (Silver, 2004: 323; Carroll and Rosson, 2003: 386).

While it has not attracted the same media attention as BEV, the Seattle Community Network (SCN) has had as much if not more success as a catalyst of civic participation. Unlike BEV, SCN was the product of a grass-roots movement committed to free, non-commercial public computing and broad-based civic participation in the development of the network from the ground up (Schuler, 1996; Silver, 2004). Conceived by members of the local chapter of Computer Professionals for Social Responsibility (CPSR), SCN was launched in 1994 in collaboration with the Seattle Public Library and dozens of non-profit organizations and activists groups. As in the case of BEV, public uptake of free internet access was rapid, this in spite of the fact that SCN lacked the kind of official, corporate and media endorsement enjoyed by BEV. SCN had over 13,000 registered users within three years of its launch. Even more impressive is the fact that, after the original organization incorporated as a non-profit group in 1995, becoming the Seattle Community Networking Association (SCNA), it attracted over a thousand paid memberships from within the community, granting voting rights and the right to stand for office in SCNA (Silver, 2004: 321-322). To this day, SCN relies exclusively on membership fees and donations for its revenue, as opposed to government fees grants or advertising revenue.

SCN also takes a grass-roots approach to content development, relying on many existing local community groups and initiatives to generate locally-oriented information and services (Silver, 2004). In its early days, SCN collaborated with local groups like Sustainable Seattle (environmental group), the Homeless Network (homeless and affordable housing advocates), and BaseCamp Seattle (feminist group) to provide access to on-line information and services, web hosting, discussion groups, and ICT training. Today SCN hosts the web sites of hundreds of local groups, organizations and businesses, as well as the personal web pages of community members. Many other well-documented U.S. examples of community networking and civic participation could be mentioned and discussed here, including Santa Monica’s PEN network, Minnesota e-Democracy, the Cleveland Free-Net, and Big Sky Telegraph; however, it is important to acknowledge the achievements of community networks elsewhere in the world, as well as the research that is being produced on them.

The Digital City of Amsterdam, or De Digitale Stad (DDS), was launched in January of 1994 and went on to become one of the most spectacular community networking successes of the 1990s. The heavy documentation of the achievements, as well as the eventual demise, of DDS offers useful insight into the connection between community networks and civic participation (Lovink and Riemens, 2004; Lovink, 2002, van den Besselaar, 1997). DDS originated out of the grass-roots initiatives of a loose coalition of artists, computer hackers, media activists and community organizations collectively known as Amsterdam Public Digital Culture, who were committed to creating a vibrant and accessible “digital public domain” in Amsterdam and the rest of
the Netherlands. Originally launched as a ten-week experiment in e-democracy to coincide with municipal elections, the DDS network expanded rapidly over the next few years, recruiting a reported 160,000 registered users by 2000, and many more site visitors. The impact of DDS on Dutch internet usage is difficult to overstate. As Lovink points out: “the DDS functioned as a catalyst for internet acquaintance and usage in the Netherlands. For many it represented their first contact with the world of the electronic networks, whether because they participated themselves or because they read, or watched television programs, about it.” (Lovink and Riemens, 2004). Adopting the metaphor of the city, the site was constructed in such a way as provide both virtual public spaces and more intimate settings in the form of virtual cafes and back allies where users socialized, shared interests and exchanged information. DDS gave its users more or less free rein to produce content for the site, which they could add via features such as discussion lists and home pages. DDS also hired staff to organize and stimulate on-line public discussion of local issues, such as the expansion of Schipol Airport or local traffic and transportation issues.

Ultimately, however, DDS was something of a victim of its own success. The publicity it attracted both in the Netherlands and internationally attracted more and more users from outside Amsterdam. The DDS experienced such rapid growth in its user base that within just a couple of years a mere 25 percent of its registered users actually resided in Amsterdam (Day and Schuler, 2004). The increasingly deterritorialized nature of its user base slowed the development of locally relevant content and allowed an increasingly entrepreneurial management team to run the network as it saw fit, unopposed by a significant local user group acting as a counterweight (Lovink and Riemens, 2004; Lovink, 2002). DDS was eventually privatized and repurposed as a commercial ISP in 2001, the inevitable result, most commentators argue, of the network’s failure to sustain local participation in management and content development.

While less well-known outside community networking circles, the Milan Community Network, or Rete Civica di Milano (RCM), has been a more sustained success than its Dutch counterpart. Founded in 1994, RCM declares the centrality of civic participation to its overall mission in its statement of founding principles:

“RCM intends to make available to citizens an online and free environment designed to promote and favour communication, cooperation, and the exchange of services among various components of the local community: citizens, their groups and associations, public sector organizations and companies, enterprises that operate in various sectors of the market, and information providers; thus helping guarantee the de facto right of online citizenship to all…” (de Cindio, 2004)

While originating in the computer laboratory of the University of Milan, RCM received a jump start from domestic political scandals in the early 1990s giving rise to the “Clean Hands” movement to root out corruption, and from growing demand for increased citizen participation in Italian public life in the wake of the scandals. Combined with the fact that Milan had the highest rates of internet penetration in Italy, the situation was ripe for the emergence of networked civic and community action groups (de Cindio, 2004).
From its inception RCM has attempted to foster civic participation and to honour the principles of participatory design and content development articulated in its mission statement. At its launch in 1994, for example, RCM created a handful of discussion forums, but otherwise left it to community members to propose and add content to new ones. Early-adopters in the community quickly developed an on-line presence for their groups and interests on the RCM network. SOS Droga Milano, for example, was established by one user in order to provide information about substance abuse, while another site, Solidarietà, focused on issues of social solidarity and exclusion. Today RCM has 15,000 registered users and over 700 discussion forums accommodating a wide range of interests and issues (di Cindio, 2004:207). A highly visible and successful RCM digital divide initiative was the “Scopri il Tresoro” (Discover the Treasure) program. The program was initially designed as an ICT training program for adult RCM users, in which participants engaged in “cyberhunts” – on-line treasure hunts – looking for information on-line while acquiring internet access and use skills along the way. The initiative was eventually broadened to reach school pupils throughout Italy. By 2004, more than 600 groups and 6,000 school children from 350 schools across Italy had taken part in the training exercise.

Community informatics research from outside North America, Europe and the UK has produced similar findings. Finquelievich, for example, relates the experience of Argentinian community networks, which played a central role in mobilizing and coordinating large scale civic protests and activities in response to the country’s December 2001 economic crisis. Citizens, communities and neighbourhoods engaged in a massive, grassroots effort to mobilize and coordinate various political and mutual aid activities, including the formation of “neighbourhood assemblies” to plan and put in place services such as soup kitchens and child care. Community networking groups such as Indymedia Argentina played a crucial role, she argues, by setting up web sites with event notices and electronic discussion forums which supported and complimented the in-person, face-to-face activities of neighbourhood residents and community activists (Finquelievich, 2004).

A major crosscutting interest among community informatics researchers has been the impact of community networking on the lives of marginalized groups in society. A growing literature shows how community networking and related initiatives have succeeded in using new ICTs to provide opportunities for increased civic participation among communities or groups with below average rates of civic participation as well as connectivity, including low-income neighbourhoods, racialized groups, youth, and aboriginals. Community networking initiatives in U.S. inner-city African American neighbourhoods have been the subject of numerous studies (Alkalimat and Williams, 2001; Hill, 2001; Pinkett, 2003; Schön et al, 1999). Pinkett, for example, describes the Creating Community Connections (C3) project in Camfield Estates, a predominantly African-American, low- to moderate-income housing development in the South End/Roxbury neighbourhood of Boston. A partnership between the neighbourhood tenants association and MIT researchers, the C3 project involved equipping resident homes with computers and internet access, providing technical support and training.
opportunities through a Neighbourhood Technology Centre, and providing a web-based community network designed to carry local content, in hopes of leveraging technology in the service of community revitalization. Early results from Pinkett’s study revealed that participating residents had expanded their social networks, possessed a greater awareness of community resources and local issues, and engaged more frequently in sharing information with one another, all indicators of increased social capital (374-376). Alkalimat and Williams recount the experience of the W.J. Murchison Community Centre and its community members in central Toledo who, through various community networking projects like Cyberchurch and Cyberschools, succeeded in increasing residents’ participation in a variety local institutions and issues (Alkalimat and Williams, 2001).

Green and Keeble (2001) and Vehviläinen (2001), among others, have documented community networking initiatives targeting women, offering internet access and ICT training to low income and new immigrant women. Such initiatives play an important role in boosting participants’ confidence and self-esteem and, in addition to providing them with marketable ICT skills and training, enable them to maintain links with family and friends and participate more actively in society.

Community networking projects and initiatives designed to offer internet access and ICT training to children and youth have also been studied (Clark, 2003; Sandvig, 2003). Sandvig found that while children at public internet access sites engaged in predominantly ‘playful’ activities like using chat and game sites, the physical location of the site itself offered valuable opportunities for children with different backgrounds and levels of expertise to share information and computer tips, thus increasing their technological and information-seeking abilities (Sandvig, 2003). Similarly, Clark found that while inner-city youth tend to use the internet primarily for entertainment, community networking initiatives such public internet access sites afford them vital “third spaces” in which to build trust, confidence and social capital among themselves while acquiring ICT skills (Clark, 2003).

Canadian Research Perspectives on Community Networking and Civic Participation

Moll and Shade have tracked the progress and development of community networks in Canada for much of the past decade, documenting the success of networks such as Ottawa’s National Capital FreeNet (NCF) and Halifax’s Chebucto Community Net (CCN) in engaging community members and organizations in the use of ICTs for local community-building (Moll and Shade, 2001, Shade, 2003). NCF is a member-driven, non-profit organization that has served as a key entry point onto the internet for thousands of members of the Ottawa community and surrounding region, many of whom would not otherwise have been able to access the internet due to the cost or other restrictions. In addition to helping community members acquire basic internet access and ICT skills, NCF and its members provide and update local content. At its height in the
late-nineties, NCF had roughly 60,000 users and enlisted over 250 organizations in posting information to the NCF network, including information on health, social services, recreation, education, federal and local government, and women’s issues. Individuals and local groups established an eclectic series of community discussion boards on topics ranging from sports, dogs and arts to astronomy, beer- and wine-making, and mental health (Moll and Shade, 2001; Shade, 2003: 43). In Halifax, meanwhile, the Chebucto Community Net (established in 1993) offers low cost internet access, email accounts and web hosting services to individuals, community groups and local businesses. In partnership with the Halifax Regional Library, CCN offers free ICT training courses to local community members, and operates a program which provides recycled computers to persons with low incomes for the purposes of training and distance education. CCN’s “Chebucto Neighbourhood” community billboard provides access to information on over 200 local businesses, community groups, social service agencies, health care organizations, arts and culture groups, government offices, and churches. CCN also operates a web camera mounted on top of the tallest building in Halifax, which has been used to raise community awareness of events like the “Tall Ships” festival and, more recently, of local issues such as the controversial harvesting of thousands of trees in the city’s Point Pleasant Park in 2000 to ward off a beetle infestation.

The Canada West Foundation (CWF) reported on the activities of, as well as challenges facing, 29 community networks from across Canada in 1997 (Canada West Foundation, 1997a, 1997b). Two CWF reports detail the many ways in which community networks fostered civic participation, from providing free or low-cost access to the information highway as a public good, and training users to become more sophisticated producers, as well as consumers, of local information and services, to engaging and attracting community members as volunteer technical support and training personnel (1997a). While a number of the networks surveyed by CWF were small, a handful served substantial populations of users. In addition to NCF’s 60,000 users, for example, networks in Toronto (38,400), Hamilton-Wentworth (15,000), Edmonton (9000), Victoria (18,000) and Vancouver (9000) enjoyed relatively heavy use given the preliminary state of public internet awareness and development at the time (1997b). While varying in size, most of the networks studied enlisted anywhere from 25 to 250 local individuals, organizations and businesses as information providers, and relied on the unpaid time and effort of between 25 and 150 volunteers each to operate the networks and provide content and programming (1997b). As the CWF researchers pointed out, community networks succeeded at the time despite a number of significant challenges, including the increasing cost of technological upgrades and the tax treatment of community networks by Revenue Canada, which refused to recognize their status as charitable organizations.

Some researchers have studied the impact of Industry Canada-supported CAP sites on civic participation and social capital as well, many of which are managed by community networks. According to a recent evaluation of Industry Canada’s CAP program conducted by Ekos Research Associates, CAP public internet access sites continue to serve a vital public good by providing internet access and ICT training to hundreds of thousands of Canadians, particularly those from groups affected by the digital divide, i.e. low income households and those in rural or remote communities
The Ekos study points out that barely 50 percent of Canadians have internet access at home, and that this figure drops to just 25 percent for those in the lowest income quartile. Thus, the CAP program is succeeding, as intended, at providing free or low cost internet access and training in the use of ICTs to many Canadians who would not otherwise have the opportunity to take advantage of them. CAP fosters civic participation in terms of providing the basic infrastructure, in the form of technical connectedness, for citizen participation in the knowledge-based economy and society. Furthermore, in addition to helping to narrow the digital divide significantly, the Ekos report also concluded that CAP offered a number of other benefits to individuals and communities consistent with fostering civic participation, including:

- increased knowledge about, comfort with and use of the Internet and ICT;
- exchange of information and ideas among citizens; social/cultural development and better integration of users into the community (e.g. through opportunities to meet or communicate); and even some improvement in the economic situation of users (e.g. development of job skills, assistance with job search, selling locally produced goods over the internet). (Industry Canada, 2004:vii).

Balka and Peterson also conducted a survey of internet users and usage at a branch of the Vancouver Public Library in 1999 (Balka and Peterson, 2002). According to their findings, while the Library’s public internet terminals were heavily used for entertainment rather than civic purposes, they did “seem to lead to social cohesion to the extent that [they provide] a mechanism for the formation and cohesion of local social groups … [and] to the extent that many patrons use the Internet to maintain contact with family and friends” (369). Other researchers have been somewhat more circumspect about programs such as CAP which, they argue, operate on the basis of a rather technical and narrow definition of access which prevents them from being used as effectively as they could be (Clement and Shade, 2000; Gurstein, 2004).

Wellman and Hampton conducted a two-year study of the social life of “Netville,” a new suburb built on the outskirts of Toronto in 1996-97 that was wired with an experimental network owned and operated by a technology firm in partnership with the residential developer (Hampton, 2003). While the network lacked many of the organizational attributes of the other grassroots community networks discussed here, the findings of the Netville studies conducted are telling. Hampton found that the wired residents of Netville used ICTs to expand and deepen their networks of social ties, and that they displayed a greater propensity to form ties with neighbours compared to their non-wired counterparts (418-421).

Finally, Ramírez et al studied the civic engagement practices and experiences of 11 community networks of varying size and organizational form (Ramírez, Aitkin, Kora and Richardson, 2002). Focussing on how community networks engage community members and local partners and stakeholder organizations in the project of community networking itself, their research reveals that community engagement “is an ongoing interactive process characterized by commitment to ever-changing community needs and interests” (2002: 2). The authors found that the on-going process of engaging and mobilizing community-members in the project of community networking entails five best
practices:

1. **Community engagement is an inclusive and ongoing process, involving a broad range of community stakeholders;**

2. **Community engagement is based on partnerships with community organizations, business, as well as local government, formal and informal leaders;**

3. **The engagement of community “champions” is key to a successful “Smart Community”;**

4. **Communication is Ongoing and Active;**

5. **Project management is flexible and responsive to changing local needs and interests.**

Successful community networking projects seek to draw participants from a broad spectrum of community groups and interests, taking pains to seek out and include those otherwise less inclined to participate. The process of engagement is continuous and open-ended, beginning with envisioning and designing the network project, through to the implementation, day-to-day management and, finally, evaluation of the project (3). Fostering partnerships among community organizations, local government and businesses in order to aggregate demand for shared telecommunications infrastructure, applications and services has proven an effective way of both ensuring the sustainability of community networks and of bringing together diverse groups within the community with little experience working together or understanding of one another’s needs (4). While broad community support is the lifeblood of community networking initiatives, most also rely on and recruit “community champions,” either individuals or teams, who through energy, creativity and a positive outlook, mobilize resources and community members to achieve collective goals (6). Community networks engage communities through an array of communication mechanisms which facilitate their input, including surveys, public meetings, focus groups, presentations, open houses and special events (7). Finally, the managers of successful community networks evince flexibility and responsiveness in relation to changing local needs and interests (8). Ramírez et al provide numerous examples of these best practices being adopted by the networks that participated in the study.

An additional area in which community networks attempt to foster civic participation concerns the development of public policy and governance mechanisms related to ICTs. While, as in most other countries, the opportunities for meaningful public involvement in agenda-setting and policy making with respect to new ICTs in Canada have been limited, community networks and related advocacy organizations have lobbied vigorously to inject public interest concerns into these processes (Clement, Moll and Shade, 2001). Through organizations such as Telecommunities Canada, community networking advocates have inserted themselves in policy consultations, discussions and debates on new media and the information highway since the mid-1990s, beginning with
the CRTC public hearings on convergence (1995) and new media (1998). Community networks were active during the consultation and report-writing phases of the Industry Canada-sponsored Information Highway Advisory Council (IHAC), which issued major agenda-setting reports and recommendations on federal information highway policy in 1995 and 1997, and again in 2000-2001 during the work of the National Broadband Task Force. However, while community networking advocates in the 1990s achieved some success in carving out a space for public interest voices in ICT policy discussions, their concerns have taken a back seat to industry and government eagerness to develop the commercial potential of the internet. Finally, community networking organizations have also become increasingly active at the international level, participating in global conferences and forums on global media governance in an attempt to exert influence on such multilateral processes as the World Summit on the Information Society (WSIS) (Moll and Shade, 2004b). It remains to be seen, however, whether the democratic vision of global media governance articulated by NGO participants at WSIS will bear fruit.

Finally, in 2003, thanks to a grant from the Social Sciences and Humanities Research Council of Canada (SSHRC), a group of Canadian community informatics researchers, community networking practitioners, and federal government departments partnered to form the Canadian Research Alliance for Community Innovation and Networking (CRACIN), which is conducting case studies and more broadbased research on community networks in Canada. CRACIN’s research agenda is designed, among other things, to document and assess the impact of community networks on local civic participation and social capital. In collaboration with participating case study sites, CRACIN has already begun to document the achievements of community networks in this regard. Some preliminary findings of this research are presented in the following section of this background paper.

Part V:
CRACIN Case Studies in Community Networking and Civic Participation in Canada

Vancouver Community Network – VCN

The Vancouver Community Network (VCN) offers a variety of free networking services to individuals and non-profit groups in Vancouver and British Columbia, including dial-up internet access, computer training, free e-mail accounts, listservs and web site hosting. VCN has 11,000 individual users and over 1,200 non-profit groups that take advantage of its services. VCN hosts over 100 listservs on its Sympa system, enabling individuals and groups to set up electronic mailing lists to share information and discuss issues of mutual interest and concern, ranging from arts and culture to politics, health, and sports and recreation. VCN has a volunteer board of twelve, over 50 active
volunteers, and 1,000 donors (Chan, 2004). Encouraging broad civic participation in the use of electronic public space is one of VCN’s primary missions.

In cooperation with the federal government and various non-profit organizations VCN also launched a Community Learning Network pilot program in 2001 designed to explore the effectiveness of community networking in support of community development and local civic participation. VCN worked closely with numerous community groups and community centers to develop interactive websites to allow the on-going documentation and archiving of their work and to make their programs better known and more accessible to the local community. Groups such as Carnegie Centre, Collingwood Neighbourhood House, Ray-Cam Cooperative Centre, and Kiwassa Neighbourhood House were trained in the use of an open source website content management system called WebGUI, which enabled community members and groups with limited computer and web development skills to produce and edit local content on the site, including news articles, event calendars and descriptions, discussion boards, and link lists.

Many of VCNs public computing initiatives focus on using new ICTs to organize and empower marginalized individuals and groups. VCN has coordinated 32 public internet access sites throughout the Lower Mainland region, as part of the federal Community Access Program (CAP). Many of these sites are situated and designed so as to serve groups, such as the poor, new immigrants, youth, and the homeless, including sites in Vancouver’s Downtown Eastside neighbourhood, one of the country’s poorest. VCN has also initiated a number of other special projects specifically designed to broaden participation in the information society by marginalized groups. For example, among the many non-profit organizations with web sites hosted by VCN is the West Coast Domestic Worker’s Association (WCDWA), an independent advocacy organization founded and run by Vancouver area domestic workers and their supporters in order to help domestic workers organize and advocate on their own behalf on issues such as employment rights and immigration. In 2003-4, in conjunction with WCDWA, VCN helped to develop and run the “Computer Literacy Project” computer training program specifically designed to meet the needs of domestic workers, in order to familiarize them with computer and internet tools for the purposes of communicating with family abroad and amongst themselves, and for accessing self-help resources on-line, such as information on legal issues. Other VCN projects have included the development of a Spanish language portal containing community, health and legal information and resources for Spanish speakers, and, in partnership with the 411 Senior Centre, an on-line Seniors Gateway to Legal Information and Resources to empower seniors and their advocates to better access benefits, services and programs.

VCN provides network access, training and technical support to community-based non-profit groups to enable them to more effectively accomplish their goals in the areas of community development and civic participation. VCN partnered with the federal government, among others, to launch the “604 Connect!” program as part of the federal VolNet program designed to boost the work of the voluntary sector in Canada using new
ICTs. Through 604 Connect! over 400 lower mainland non-profit groups acquired internet access, training and support.

The Alberta Library and Rural Broadband

The Alberta Library, in conjunction with the University of Alberta, is currently conducting pilot projects and research examining the impact of rural broadband on the role of the public library in the context of civic participation and community-building. Public libraries, as physical places, can serve as community hubs, or what Oldenburg and Brissett call “third spaces,” in which citizens experience diverse human contact and build community. Through a series of videoconferencing experiments linking rural public libraries and public schools, the project explores broadband’s potential to transform the communitarian function of public libraries, enabling their development as real and virtual third spaces of discursive action within and between communities (Staring Parrish, 2005). In the recently completed first phase of the project, videoconferencing was used to exchange local histories between library users using intergenerational storytelling sessions involving seniors and schoolchildren. Other potential applications of public library broadband connectivity in rural areas include aggregating information and services of benefit to geographically dispersed but otherwise similar communities, mobilizing communities for collective action on issues of common concern, and providing opportunities for both face-to-face and on-line interaction between citizens and elected officials.

Kuh-ke-nah Network of Smart First Nations – K-Net (Nishnawbe Aski First Nation)

In 1994, Keewaytinook Okimakanak (KO), a council of chiefs from 5 Nishnawbe Aski Nation (NAN) communities in north-western Ontario, established the Kuh-ke-nah (K-Net) regional community network, in an effort to leverage connectivity to promote economic development, social capital and civic participation in NAN communities (Beaton, Fiddler and Rowlandson, 2004, Ramirez et al, 2004). The 49 NAN communities are spread across a territory the size of France, and average roughly 400 members each. NAN communities are linguistically and culturally either Cree, Ojibway or Oji-Cree. Except for a few weeks in winter, the remote NAN communities are accessible by plane only. Residents have struggled for decades with high unemployment, dependency on social assistance, above average rates of suicide, and below average rates of high school completion. NAN communities also lack basic health and educational services taken for granted in much of the rest of Canada. Considerable stress and dislocation are imposed on NAN communities as a result of residents having to leave to access medical treatment, and children as young as 13 leaving to attend high school in population centres hundreds of kilometres away. K-Net has worked in partnership with federal and provincial governments over the last ten years to connect NAN communities to the internet. Thanks to these partnerships, some NAN communities have progressed from having a single phone in the community to residential broadband access in less than a decade.
Recent K-Net initiatives in tele-health and on-line education contribute to social capital and civic participation in NAN communities by enabling residents to access vital services that previously were available only by flying to larger communities hundreds of kilometers to the south, imposing heavy emotional and social costs on families and communities, in addition to the financial costs. KO Tele-health currently offers telemedicine services to 5 KO communities, with plans to add 19 more to the network. The K-Net Internet High School (KiHS) enables students in 13 NAN communities to complete Grades 9 and 10 on-line via internet access to curriculum materials and trained teachers. In addition to reducing the sense of isolation and disconnectedness felt by residents of such communities, K-Net services such as tele-health and KiHS play an important role in strengthening local communities by enabling residents to stay in the community who might otherwise be forced to leave, and by encouraging those who have left to return (Ramirez et al, 2004). K-Net engaged in extensive community consultations during the 1990s to canvass community perspectives on broadband connectivity, needs assessment and service priorities. K-Net’s emphasis on tele-health and KiHS is a direct response to community priorities.

In addition, K-Net provides a host of other network, training and content development services, such as video-conferencing, and individual, family and community homepages which enable community members to stay in touch with friends, family and community news. K-Net’s myknet.org server hosts other First Nations community portals, 14,000 personal homepages, over 22,348 email addresses, chat rooms, and virtual school sites. K-Net also hosts the Turning Point discussion forum, an on-line forum devoted to engaging aboriginals and non-aboriginals in discussions of mutual interest and concern and to improving cross-cultural communication and race relations in Canada. With up to 30,000 visitors and 2.7 million hits on a daily basis, the K-Net portal provides a significant on-line presence for Ontario’s remote First Nations.

K-Net also engages in a variety of training activities to build community capacity to operate and maintain community ICT assets. For example, K-Net held training workshops in over a dozen NAN communities to train local youth in the use of PostNuke, an open source web page development and content management system, in order to facilitate the construction and maintenance of web pages for NAN community schools. Previously, the development of school web pages had depended on outside consultants or teachers. When these individuals left the community, the skills necessary to maintain and update the sites left with them. As a result of the K-Net training workshops, these skills now reside in the community, and there are over 140 school web pages in NAN and other First Nation communities that help keep students, parents and educators informed about school news and educational issues.

K-Net also enables community access to local cultural resources and heritage language training, thereby strengthening local identity, intergenerational ties, and communal pride. Serving a First Nations population under longstanding threat of cultural assimilation, K-Net leverages connectivity in KO communities to revitalize indigenous linguistic and cultural practices among community members (Beaton, Fiddler and
Rowlandson, 2004). K-Net offers a number of content services encouraging the use of First Nations’ language. For example, K-Net makes some web content available in syllabics, and supports community members’ use of syllabics by making a number of syllabic font styles available, as well as a keyboard template for inputting syllabic text. Both are available to download from the K-Net site. Another project under development is the creation of an on-line Oji-Cree English Translation Dictionary (http://www.knet.ca/dictionary.html) containing a database referencing English, Oji-Cree, syllabics, images and sound.

K-Net also provides web space and bandwidth for the promotion of local culture, arts and crafts, both as a forum for cultural expression and learning by community members, and as a potential tool to market locally produced arts and crafts to the outside world. The K-Net “Legends Site” (http://legends.knet.on.ca/), for example, presents traditional NAN legends, such as the stories of the mythical figure iyash, in both English and Oji-Cree. The stories are available in text, audio and multimedia formats. In September 2003, meanwhile, K-Net also launched an Arts and Crafts web site (http://arts.knet.ca/) showcasing the work of NAN artists and craftspeople from across northwestern Ontario. The site features galleries containing images of the works of dozens of community members, some of which have been viewed thousands of times since the launch of the site. K-Net initiatives also support the preservation and intergenerational transmission of traditional NAN language, life-ways and indigenous knowledge of the natural world. Through the First Nations SchoolNet program, for example, K-Net helped to equip and train youth in the KO community of Fort Severn, the most northerly community in Ontario, for the creation of digital video productions and multimedia web-casting (National C-Band Benefit Users Group, 2004). Students used the equipment to record their experiences during a number of canoeing expeditions bringing together Fort Severn elders and youth, and during which elders related their knowledge of the land and historical experience. The working language of the expeditions was Cree. Upon their return, the students produced a number of videos documenting both the traditional knowledge and practice of elders as well as their own experiences on the land. The videos became popular features on the local community cable television station.

St. Christopher House Community Learning Network (Toronto)

St. Christopher House (SCH) is a non-profit social service agency which has served less advantaged individuals and families in western downtown Toronto since 1912. SCH offers a broad range of community-based social service programs, serving over 8,000 community residents a year. In an effort to tackle the digital divide, SCH is host to a Community Access Program project called Bang The Drum, which operates at various sites within its catchment area offering free internet access, computer tutorials and comprehensive lessons on website design and programming.

In February 2005, SCH launched an ambitious Community Learning Network (CLN) web portal, supported by a grant from Human Resources and Skills Development Canada’s Office of Learning Technologies (OLT). Luke and Clement describe CLNs as
“physical, social and electronic public spaces that foster community values and technological literacy as well as offering a supportive learning environment, especially for those without computer access at home, to develop new skills enabling active participation in a ‘knowledge-based economy and society’” (Luke and Clement, 2004:2). The objectives of the SCH CLN project are:

- to provide information, resources and services that are up-to-date, locally relevant, and accessible to diverse community members;

- to develop and promote a range of resources with the purpose of enhancing the social and economic power of communities; and

- to establish a coordinated community-based training methodology that builds the capacity of the St. Christopher House community to use the Internet and work together online.

The SCH CLN will enable users to add and edit various kinds of content to the site in both public and private areas, co-construct pages and resources related to SCH programs and services, create community event listings and announcements, set up discussion forums, establish community group web sites, participate in on-line training courses, translate pages into various languages, and create or post materials to support informal learning on a wide variety of subjects of interest to other community members; that is, to enable acts of “conspicuous contribution” to the CLN on the part of SCH community members (Luke and Clement, 2004: 9). Having only recently been launched, it would be premature to evaluate the SCH CLN web portal as a catalyst of civic participation in the SCH community, but the process used by SCH in its conception, design and implementation to this point offers insight into community networks as sites of civic participation in their own right.

As a social service organization fully committed to community engagement and participation, SCH adopted a variety of practices more or less consistent with a participatory design approach to the conception, design and implementation of the CLN (Luke, Clement, Terada, Bortolussi, Booth, Brooks and Christ, 2004). Without community input into the vision, design, implementation and day-to-day management and maintenance of the CLN from the outset, SCH staff felt that it would be difficult to secure community buy-in and participation further down the road. Capitalizing on its experience and success running the Bang the Drum program, SCH secured funding from OLT for the CLN in 2002. With the assistance of a private web development firm and the support of community informatics researchers from the University of Toronto, SCH embarked on the initial phases of the development of the CLN portal, beginning with an assessment of SCH staff and community needs and the development of a blueprint for the web portal. Both the needs assessment and blueprint phases of the project involved extensive interviews and focus groups with SCH program staff, community members and key stakeholders, culminating in an intensive collaborative workshop out of which an initial blueprint for the CLN portal was prepared. Only after presenting the blueprint to the SCH staff and community for commentary and revision did the web developer begin
the actual programming work on the CLN, after roughly 6 months of consultation and
discussion. Successive prototypes of the SCH CLN portal were tested on groups of SCH
staff and community members over the next year and half until its final public launch in
February 2005.

At least two other participatory aspects of the CLN project are worth mentioning
as well. The SCH CLN was developed according to the practices of open source software
design, in which programmers make software code and program prototypes available to
the wider programming public for feedback and to share the fruits of their labour with
others. The web development firm contracted by SCH to develop the CLN portal posted
its code to the popular open source software site SourceForge.org, thus engaging the
wider community of open source programmers in the SCH CLN project. The generic
code for the CLN is now available to other community groups on the SourceForge site,
which they are free to adapt and add features to provided they abide by the terms of open
source software development, which includes sharing improvements and new features
with others. In addition, SCH formed and trained a group of technically proficient
community volunteers – the Community of Practice Understudy (CPU) – whose task it
will be to assume responsibility for maintaining the security and stability of the core
program once the private firm has completed the contract. While the design and
implementation of the CLN was not without its snags, all participants agree that the
process was a rewarding and successful one that is far more likely to engage members
of the community than had the CLN been designed and implemented in top-down fashion

Communautique (Montréal)

Communautique is a Montréal-based non-profit community networking group
founded in 1995 which works throughout the province of Québec to assist low-income
individuals and families and other groups potentially excluded from participating in the
information society. It provides internet access and other ICT services and training
throughout the province. Communautique has assisted with the installation of over 98
internet access points in communities such as Québec City, Hull, Sherbrooke, Trois-
Rivières, Amos, Rimouski, Chicoutimi, Longueuil and four districts of Montréal. Overall,
Communautique’s internet initiation and new technologies workshops have been attended
by over 30,000 people, and have played an important role in combating the digital divide
(la fossé numérique) in Québec society.

Communautique also plays an active and visible role advocating on behalf of
universal access and community networking issues. In 2002, for example, it issued its
Platforme Québécoise de l’Internet Citoyen, which articulates a vision of a “citizen-
centred Internet” emphasizing the importance of overcoming the digital divide and
enabling full participation in the information society and calling upon government to
develop and implement policies and programs which recognize universal access as a
basic right of citizenship and support the development of community networks. The
Platforme defines l’Internet Citoyen in the following way:
“a citizen-centred Internet means universal access to ICTs in order to support social participation and reinforce citizenship. By access we mean access to physical infrastructure, but more importantly access to initiation and training opportunities. How can technology help us if we don’t know how to use it? A variety of measures need to be taken in order to allow the majority of the population, as well as the less fortunate who risk being even more excluded, universal access to ICTs.” (Communautique, 2002, author’s translation)

The Platforme is supported by over 350 community groups and individuals in Québec. In addition, Communautique has raised public awareness of the potential impact of provincial government on-line initiatives on the voluntary sector and the populations it serves. In October 2004 Communautique organized a one-day workshop on government on-line attended by over 80 participants and stakeholders from the voluntary sector, government and the private sector.

Communautique is also active in building ICT capacity within the voluntary sector itself in order to enable community groups to work more effectively to accomplish their goals. Communautique is actively involved in Industry Canada’s Information Management/Information Technology (IM/IT) program, which aims to increase the technological capacity of the voluntary sector in Canada, and has launched a number of related initiatives, including a new web site (espace-associatif.org) where community groups can share experiences and innovative uses of information technology with one another, and a Social Innovation Day showcasing innovative uses of ICT in the voluntary sector and providing an event where voluntary sector professionals engaged with ICT can network and exchange information.

**Western Valley Development Agency - WVDA (Nova Scotia)**

The Western Valley Development Agency (WVDA) is the regional development body for the "western valley" region of Nova Scotia, which includes the counties of Annapolis Valley and Digby. At the time WVDA was established the region was in the throes of a major economic crisis, precipitated by the closure of CFB Cornwallis and the collapse of the cod fishery, two of the major employers in the region (Larkman, 2004). From the early days of its inception in 1994, WVDA identified ICT as an important component of its community economic and social development strategy for the region (MacNeil, 2004).

In 1994 computer literacy and internet access were very low in the region, and its telecommunications infrastructure was out-dated, so WVDA’s early initiatives in public computing were devoted to infrastructure and technical access issues. In the mid-to-late 1990s WVDA worked to establish public access sites in 35 communities through the CAP program and engaged in community outreach to raise awareness of new ICTs and their benefits. In addition, the Western Valley Community Network (WVCN) was established, offering email accounts, web hosting, and access to community information via a community web portal. Today the region boasts a household internet penetration...
rate of 85 percent, 20 percent higher than the national average. WVCN email accounts are used by 3,000 people and the various web sites hosted by WVDA receive a total of over 12,000 hits per day.

One of WVDA’s strengths is its commitment to civic engagement and participation. In 1998-99, for example, WVDA solicited community input on a new five-year community action plan for economic and social development, holding 23 information and consultation sessions in fire halls, Legion halls and community centres throughout the region that were attended by over 500 people.

WVDA was also involved in the federal VolNet program, through which it was able to offer low cost computer equipment and internet access, along with free training, to 10 local non-profit groups. In addition, with the support of the federal government, WVDA has facilitated the development of a number of projects to make local heritage and cultural materials available on line, including the West Nova Eco Site, Digby Neck in Stories, New France – The Electric City, and From Kespitukik to Port Royal. Thanks to these and other accomplishments, WVDA was designated an official “Smart Community Demonstration Project” by the federal government in 2000.

As part of its original Smart Communities project plan, WVDA embarked on a project to bring broadband access to the region, in cooperation with the local telecommunications provider. After an agreement could not be reached with the private provider, however, WVDA changed course and spearheaded the development of a community-owned high-speed fibre-optic network – the Fundy Web Community Network - spanning 144 kilometres across the region, which is now owned and operated by the seven local municipalities and a local community college.

**Part VII: Conclusions and Directions for Future Research**

CRACIN’s on-going research on community networking in Canada will eventually provide a detailed overview and analysis of the civic participation practices, experiences and achievements of its community networking partners. Already, however, based on documentary evidence, the community networking organizations, sites and initiatives described above had an indubitable impact. As key players in providing free or low cost internet access and training to those who cannot not avail themselves of equivalent commercial services, community networks constitute vital public on-ramps to the information highway for hundreds of thousands of Canadians. While the digital divide has closed rapidly over the last decade, diffusion and penetration rates have slowed noticeably in the last year or two, leaving as many as 50 percent of Canadian households still without access at home. Household broadband access remains out of reach for the majority of Canadian individuals and communities as well. Thus, community networks will continue to play an important role in Canada’s access infrastructure for the foreseeable future.
In addition, the community networks being documented in CRACIN’s research demonstrate a strong commitment to civic participation, both in terms of the innovative uses they make of ICTs to stimulate and support community engagement and development, and in terms of how they engage community members in the project of community networking itself as volunteers, content providers and board members. Many are actively involved in regional, national and even international dialogues and debates about ICT policymaking and governance as well.

Having said all this, CRACIN research is also beginning to reveal how fragile and tenuous many of the gains achieved by community networking can be. This paper seeks not only to validate the role of community networks in promoting civic participation, but to also identify and acknowledge the many serious challenges and difficulties they currently face and maintaining and advancing their work in this area. A selective list of these would include:

- the vagaries of government program implementation and funding, which inhibit long-term planning and hiring decisions and tax the resources and energy of staff who must continuously prepare funding applications, participate in evaluation exercises, etc.;

- staff and community members alike must battle a certain “participation fatigue”, brought on by the considerable resource and emotional demands of community engagement exercises on staff and community alike;

- local particularities, cultures and traditions – including alienation or deeply entrenched skepticism toward technology or social service workers – can make securing community engagement and participation particularly challenging;

- the use of the web as the main technical platform for community networks today constitutes something of a double-edged sword offering access to global information and services, as well as those produced locally, potentially encouraging users to bypass local information and services, discouraging them from contributing local content, and threatening the relevance of the network to the community as a whole. Preserving and enhancing the vitality and relevance of local content while at the same time providing a window onto the world for communities, and vice versa, in the face of the deluge of global information and services made available by the web can be a difficult balance.

CRACIN is currently proposing to undertake further research on civic participation at its partner community networking sites in order to better understand and appreciate these difficulties, to shed light on how government policies and funding programs might alleviate or exacerbate them, and to offer practical suggestions and solutions for overcoming them.
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